

THE LIVING AGE.

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THE CHILDLESS MOTHER.

BY THOMAS MILLER.

WITH one hand pressed against her head,
This, to herself, the lady said:—

"But Sorrow cannot always weep,
Nor Grief be ever making moan!
For tears will dry, and sighs will sleep,
And Memory be left alone,
To pace the chambers of the mind—
With gloomy shadows overcast—
And see if she can solace find
Among those pictures of the past
With which it everywhere is hung,
The living mingling with the dead;
And round the shifting circle swung
So quick—I look on all in dread.

"Thus ever on the past I gaze,
What was, still linked to what is now,—
Like one who in a wildering maze
Goes round about, but knows not how.

"I sleep!—but in my love awake,
Still feel about for him in bed,
Shifting my arm, as if to make
A pillow for his pretty head.
And in my dreams again I fold
My darling closer to my bosom.
Then wake to find the spot is cold
Where nestled once my blue-eyed blossom.
His form in many a thing I see,
In many a sound I seem to hear him
Calling, as he once called to me,
And start, as if I still were near him.
As when I hummed some plaintive ditty,
Of Babes who in the Wood lay dead,
And woke his childish tears of pity—
The only happy tears we shed.
Quiet doth now the kitten lie,
Which he in turn did tease and nurse;
It played about when he was by:
Still is the creaking rocking-horse,
Of which I did so oft complain,
When mounted there he shook the floor:
Oh! could I have thee back again,
My child! I ne'er would murmur more.
That rocking sound awoke the bird,
And it would sing, and thou wouldst shout
Until the very house seemed stirred.
Now—a sad silence hangs about,
Made sadder if that poor bird sings.
I fix my eyes upon the door,
For back another voice it brings,
Whose music I shall hear no more.
Worse than a desert unto me
My garden seems; I sit for hours,
And all the while I only see
A little coffin filled with flowers.
And then sometimes I sit and mend
The garments in thy gambols torn;
And while I o'er them fondly bend,
Forget they will no more be worn;—
Think how this rent was made in play,
And that while climbing on my knee;
And then I throw the work away,
And clasp my hands in misery.
The mat on which thou knelt'st to pray,
My folded hands enclosing thine,

I now bow down on thrice a day;—
To me it is a holy shrine.
I doze at times, and fancy brings
His footstep sounding on the stair:
His little hands untie my strings,
His busy fingers pull my hair.
And then I waken with a start,
And wonder how the inward eye
Makes such a fluttering at the heart,
Then say, 'This love can never die.'

"I fondly hoped I should have seen
Thy children gathering round my knee;
Pictured the comfort they'd have been
In my old age to thee and me,
With her thou to thy heart wouldst fold:
But while I sat and wove the chain
In fancied links of lengthening gold,
It suddenly was snapped in twain.

"I saw thee in my dreams last night,
Sitting beside a starry gate,
'Mid other children robed in light,
Who for their mothers seemed to wait,
As if they feared to go alone,
Where golden pillars stretched away,
Lost in the brightness of a throne.
And in my dream I heard thee say,
'My mother now will soon be here;
She is already on her way.'
And then I seemed to enter there,
And thou didst lead me by the hand,
And to an angel named my name,
Who by the starry gate did stand.
And while I hung my head in shame,
And feared he would not let me in,
I heard these pleading words from thee,—
'Angel! my mother's greatest sin,
While upon earth, was loving me.'
And then we both knelt at his feet,
While heavenly music 'gan to sound;
And voices, for this earth too sweet,
Anthemed within, 'The lost is found!'
—*St. James's Magazine.*

AN AUTUMNAL THOUGHT.

In the bright morning sun,
In the warm crystal air,
When merry squirrels run,
And frisks the woodland hare,
And basks the glossy pheasant,—
Is it indeed so pleasant,
So easy a thing to die?
That thus, dear leaves, ye fly,
So airily light and gay—
As if it were death in play—
A twinkling, golden rain,
From the boughs where never again
Ye shall rustle in April showers,
Or dream through summer hours.
Ah, me!—ah, would that thus
Our autumn came to us!
That souls might take a flight
As easy and swift and light,
Without the sorrow and sighing,
Without the wrestling and pain,
The travail to those who are dying,
The wailing to those who remain!
—*Fraser's Magazine* E. HINXMAN.

From The Edinburgh Review.

1. *Researches on the Solar Spectrum, and the Spectra of the Chemical Elements.* By G. Kirchhoff, Professor of Physics in the University of Heidelberg. Translated by Henry E. Roscoe, B.A., Professor of Chemistry in Owens College, Manchester. Cambridge and London: 1862.
2. *Chemical Analysis by Spectrum Observations.* By Professors Bunsen and Kirchhoff. *Memoirs I. & II.* Poggendorff's *Annalen* (Philosophical Magazine, 4th Series, vol. xx. p. 69, vol. xxii. p. 1). London, Dublin and Edinburgh.

It is unnecessary to insist, at the present day, upon the incalculable value of discoveries in natural science, however abstruse they may be, or however far-distant may appear their practical application. If we put aside for the moment that highest of all intellectual gratifications afforded by the prosecution of truth in every form, the perception of which is one of the chief distinctions of human from mere brute life, and if we look to the results of scientific discovery in benefiting mankind, we find so many striking examples of the existence of truths apparently altogether foreign to our every-day wants, which suddenly become points of great interest to the material prosperity and the moral advancement of the race, that we are less apt to utter the vulgar cry of "*cui bono*" respecting any scientific discovery; and if we are not advanced enough to love science for the sake of her truth alone, we at least respect her for the sake of the power she bestows. Not once, but oftentimes in the annals of science, it has turned out that discoveries of the most recondite truths have ere long found their application in the physical structure of the world, and even in the common interests of men; for in the range of scientific investigation, it can never be said how near the deepest principle lies to the simplest facts.

A great discovery in natural knowledge, for which no equivalent in direct benefit to mankind has as yet been found, but which nevertheless excites our liveliest interest and admiration, has lately been made in the rapidly advancing science of Chemistry. This discovery, which is one of the grandest and most important of all the recent additions to science, consists in the establishment of a new system of chemical analysis—of a new power to investigate the constitution of mat-

ter. This is of so delicate a nature, that, when applied to the examination of the substances composing our globe, it yields most new, interesting, and unlooked-for information. At the same time it is of so vast an application as to enable us to ascertain with certainty the presence in the solar atmosphere—at a distance of ninety-five million miles—of metals, such as iron and magnesium, well known on this earth, and likewise to give us good hopes of obtaining similar knowledge concerning the composition of the fixed stars. Here, indeed, is a triumph of science! The weak mortal, confined within a narrow zone on the surface of our insignificant planet, stretches out his intellectual powers through unlimited space, and estimates the chemical composition of matter contained in the sun and fixed stars with as much ease and certainty as he would do if he could handle it, and prove its reactions in the test-tube.

How can this result, at first sight as marvellous and impossible as the discovery of the elixir vitae or the philosophers' stone, be arrived at? How did two German philosophers, quietly working in their laboratory in Heidelberg, obtain this inconceivable insight into the processes of creation? Are the conclusions which they have arrived at logical consequences of *bona fide* observations and experiments—the only true basis of reasoning in physical science—or do they not savor somewhat of that mysticism for which our German friends are famous? Such questions as these will occur to all who hear of this discovery; and it will be our present aim, in reviewing the publications which are placed at the head of this article, to answer these and similar questions, and to show that, far from being mystical, these results are as clear as noon-day, being the plain and necessary deductions from exact and laborious experiment. And here we may express our satisfaction at the change which has occurred within the last few years in the direction given to the powerful intelligence and the indefatigable industry of Germany. The labors of the Germans in physical science have far surpassed in their results those speculative researches which had rendered "German philosophy" the synonym of all that was unintelligible and perplexing: and it is impossible to overrate the services which men like Liebig and Bunsen (the chemist)

and Kirchhoff have rendered to mankind. In chemistry, Germany may now be said to take the lead of England, of France, and of Italy: already she has paid an ample contribution to the common stores of human knowledge. It is a remarkable circumstance that although for several years the once productive fields of German literature have been comparatively barren, or have at least presented us with no work of the highest order, the supply of German works on natural science is immense, and the quality of these works excellent.

The only channel through which we on the earth can obtain information of any kind whatever concerning the sun and stars, consists in the vivifying radiance which these luminaries pour forth into surrounding space. The light and heat which we receive from the sun not only supply the several varieties of force which we find in action upon the surface of the earth, thus rendering the whole human family truly children of the sun; but a knowledge of their nature enables us to ascertain the chemical composition of those far-distant bodies upon which the existence of our race so intimately depends. The examination of the nature of sunlight and starlight has led to the foundation of a science of stellar chemistry; and it is likewise upon the examination of the light given off by terrestrial matter, when through heat it becomes luminous, that the new method of spectrum analysis is founded—a method so delicate as to enable the analyst to detect with ease and certainty so minute a quantity as the one one hundred and eighty millionth part of a grain of substance.

The world owes to the great Newton its first knowledge of the nature of sunlight. In 1675 Newton presented to the Royal Society his ever-memorable treatise on Optics; and amongst the numerous important discoveries there disclosed and recorded, was one demonstrating the constitution of white light. He describes what he observed when he passed a beam of sunlight, from a hole in the shutter of a darkened room, through a triangular piece of glass called a prism. He noticed that, instead of a spot of white light corresponding to the hole in the shutter, a bright band of variously colored lights, showing all the tints of the rainbow, was thrown on the wall of his room. Newton concluded

that these colors were no peculiar effect of the prism, because a second prism did not produce a fresh alteration of the light. He showed that the white light is thus split up into its various constituent parts; and by bringing all these colored rays together in the eye, and again obtaining the white image of the hole in the shutter, he proved that the kind of light which produces on the eye the sensation we term *whiteness*, is in reality made up of an infinite number of differently colored rays.

The colored band thus obtained by Newton did not, however, reveal to him all the characteristic beauties of solar light, because in his spectrum the tints were created by the partial superposition of an infinite number of differently colored images of the round hole through which the light came. It was not until the year 1802 that Dr. Wollaston, by preventing the different colored lights from overlapping, and thus interfering with each other, discovered that great peculiarity in solar light which has led to such startling discoveries in the composition of the sun itself. Dr. Wollaston noticed, when he allowed the sunlight to fall through a narrow slit upon the prism, that a number of dark lines cutting up the colored portions of the spectrum, made their appearance. These dark lines, or spaces, of which Wollaston counted only seven, indicate the absence of certain distinct kinds of rays in the sunlight; they are, as it were, shadows on the bright background.

It is, however, to the celebrated German optician Fraunhofer, that we owe the first accurate examination of these singular lines. By a great improvement in the optical arrangements employed, Fraunhofer, rediscovering these lines, was able to detect a far larger number of them in the solar spectrum than had been observed by Wollaston. He counted no less than five hundred and ninety of these dark lines, stretching throughout the length of the spectrum from red to violet, and in the year 1815 drew a very beautiful map of them, some of the most important of which he designated by the letters of the alphabet. Fraunhofer carefully measured the relative distances between these lines, and found that they did not vary in sunlight examined at different times. He also saw these same dark fixed lines in reflected as well as in direct solar-light; for

on looking at the spectrum of moonlight and of Venus-light, the same lines appeared quite unaltered in position. But he found that the light of the fixed stars was not of the same kind as direct or reflected sunlight, as the spectra of the starlight contained dark lines entirely different from those which are invariably seen in the solar spectrum. From these observations Fraunhofer, so early as 1815, drew the important conclusion that these lines, let them be what they may, must in some way or other have their origin in the sun. The explanation of the production of these lines was reserved for a subsequent time; but Fraunhofer opened the inquiry, and all his conclusions have been borne out by recent and more elaborate investigations.

Since the time of Fraunhofer our knowledge of the constitution of the solar spectrum has largely increased. Professor Stokes, in his beautiful researches on Fluorescence, has shown that similar dark lines exist in that part of the spectrum extending beyond the violet, which require special arrangements to become visible to our eyes; and Sir David Brewster and Dr. Gladstone have mapped with great care about two thousand lines in the portion of the spectrum from red to violet.

But it is to Kirchhoff, the Professor of Physics in the University of Heidelberg, that we are indebted for by far the best and most accurate observations of these phenomena. In place of using one prism, as Fraunhofer did, Kirchhoff employed four prisms of most perfect workmanship, and thus enjoyed the advantage of a far greater dispersion, or spreading out, of the different rays than the Munich optician had obtained. The lines were observed through a telescope having a magnifying power of forty, and when the whole apparatus was adjusted with all the accuracy and delicacy which the perfection of optical instruments now renders possible, Kirchhoff saw the solar spectrum with a degree of minute distinctness such as had never before been attained; and of the beauty and magnificence of the sight thus presented those only who have been eyewitnesses can form any idea.

Kirchhoff's purpose was not merely to observe the fine vertical dark lines which in untold numbers crossed the colored spectrum, stretching from right to left. He wished to measure their relative distances,

and thus to map them, exactly as the astronomer determines the position of the stars in the heavens, and the surveyor triangulates and marks out the main features of a country; so that future wanderers in this new field may find fixed and well-recognized points from which to commence their own excursions. Professor Kirchhoff is far from thinking that his measurements, delicate and numerous though they be, have exhausted the subject. The further we penetrate into the secrets of nature, the more we find there remains to be learnt. He saw whole series of nebulous bands and dark lines which the power of his instrument did not enable him to resolve; and he thinks that a larger number of prisms must be employed to effect this end. He adds: "The resolution of these nebulous bands appears to me to possess an interest similar to that of the resolution of the celestial nebulae; and the investigation of the spectrum to be of no less importance than the examination of the heavens themselves." True, indeed, does this appear, when we learn that it is by the examination of these lines that we can alone obtain the clue to the chemical composition of sun and stars!

The exact measurement of the distances between the lines was made by moving the cross wires of the telescope from line to line by means of a micrometer screw with a finely divided head, and reading off the number of divisions through which the screw had to be turned. The breadth and degree of darkness were also noticed, and thus the lines were mapped. In order to give a representation in the drawing of the great variety of the shade and thickness of the lines, they were arranged according to their degree of blackness, and drawn of six different thicknesses. First, the darkest lines were drawn with thick black Indian ink; the ink was then diluted to a certain extent, and the lines of the next shade drawn, and so on to the lightest series. As soon as a portion of the spectrum had been drawn in this manner, it was compared with the actual spectrum, and the mistakes in the breadth and darkness of the lines, as well as in their position, corrected by fresh estimations, and the drawing made anew. A second comparison and another drawing were then made, and this process repeated until all the groups of lines appeared to be truthfully repre-

sented. Copies from the same lithographic stones accompany the English edition of the memoir as are appended to the original, and these are masterpieces of German artistic skill. They are printed on six different stones, with ink of six different tints, and reproduce with marvellous fidelity the appearance which the solar spectrum presents when viewed through the magnificent Heidelberg instrument.

These maps extend, however, over only one-third part of the visible portion of the solar spectrum, and it will, we fear, be long before the other two-thirds are completely surveyed, as the following note, telling of the failing eyesight of the ingenious observer, touchingly explains: "My drawing," he says, "is intended to include that portion of the spectrum contained between the lines A and G. I must, however, confine myself at present to the publication of a part only of this, as the remainder requires a revision, which I am unfortunately unable to undertake, owing to my eyes being weakened by the continual observations which the subject rendered necessary."

Before it can be understood how these dark lines reveal the chemical composition of the solar atmosphere, it must be shown how the constitution of terrestrial matter can be ascertained by the examination of the nature of the light which such heated matter emits. That certain substances, when heated or burnt, give off peculiar kinds of light, has long been known; and this fact has been made use of by the chemist to distinguish and detect such substances. Thus compounds of the earth strontia, when burnt with gunpowder, produce the peculiar mixture well known as the "red fire" of the pyrotechnist; the salts of baryta give color to the green fires of the stage; and we all see in the Christmas game of snap-dragon that a handful of salt (chloride of sodium) thrown into the dish imparts to the flame a yellow color.

This property of substances to give off certain kinds of light was formerly only known to hold good for a few bodies; but the progress of science has taught us that it is not confined to one substance, but is applicable to all. We only require to examine a body under the proper conditions, in order to see that when heated it emits a peculiar and characteristic kind of light; so

that each elementary substance—that is, a substance which has not been split up, or decomposed, or out of which no two or more bodies differing in their properties have been obtained—whether it be a gas, a solid, or a liquid, may by heating be made to emit a kind of light peculiar to itself, and different from that given off by any other substance. Here, then, is the basis of this new method of spectrum analysis—a science which demonstrates the chemical composition of a body by the color or kind of light emitted from it when heated. We now only need to know, in order to understand the subject, the proper conditions under which bodies can be made to develop this beautiful property, by help of which their chemical natures can be thus easily investigated, and analysis rendered not only independent of test-tubes, but likewise of distance; for it is clear that so long as light can be seen, it matters not how far removed its source may be. The sole condition which must be fulfilled in order to attain the object, is that the body to be analyzed must be in a condition of luminous gas or vapor; for it is only in the gaseous state that each kind of matter emits the light peculiar to itself. It is somewhat difficult at first to understand how a gas or air can be heated until it emits light, and yet familiar instances are not wanting of such a condition of things. Flame, indeed, is nothing else than heated and luminous gas; and in the blue part of the flame of a candle, and in the lambent blue flame which plays on the top of a large fire, we have examples of a truly gaseous body heated until it becomes luminous.

The modes in which the various elements can be best obtained in the condition of luminous gases are very different. For the compounds of the metals of the alkalis and alkaline earths, it suffices to bring a small quantity of one of their salts into a flame of a spirit lamp, or into a gas flame. The salt then volatilizes, or becomes gaseous; and this vapor, heated to the temperature at which it is luminous, tinges the flame with a peculiar color. For the compounds of the other metals, such as iron, platinum, or silver, a much higher temperature is needed; whilst for bodies such as air and hydrogen, which are gases at the ordinary temperature, a different mode of manipulation is necessary.

In order to become acquainted with the exact nature of the light which bodies in the condition of luminous gases emit, their light must be examined otherwise than by the naked eye. The same kind of apparatus is used in this investigation which Fraunhofer and Kirchhoff applied to the investigation of solar light; in short, the distinctive qualities of these luminous gases are ascertained by their *spectra*. Then only is it that the full beauty of this property of matter becomes apparent, and the character of each elementary body is written down in truly glowing language—language different for every element, but fixed and unalterable for each one, as to the interpretation of which no variety of opinion can possibly exist.

To Professors Bunsen and Kirchhoff science is mainly indebted for the examination of this hitherto hidden language of nature. These philosophers undertook an investigation of the "Spectra of the Chemical Elements," and nobly have they carried out their intention; unfolding a vast store of nature's secrets to the knowledge of mankind, and revealing the existence of much more yet to be learnt in unlimited fields which promise a rich harvest of discovery to the patient and exact inquirer. Seldom indeed has it been the privilege of men in a single discovery to found a science, or to open a subject so pregnant with important results as that of spectrum analysis.

Those alone who are acquainted with the practical details of the science of Chemistry will be able fully to appreciate the grand change which the introduction of this new method effects in the branch of their science devoted to analysis. Qualitative analysis thereby undergoes a complete revolution; the tedious operations of precipitation and filtration must now be superseded by the rapid observation of the spectra of the colored flames by which the presence of the most minute trace of the substance—far too small to be found by the older and coarser methods—can be surely and clearly detected. Let us endeavor to form an idea of the appearance of the peculiar spectra thus obtained; the most complete or eloquent description must, however, fail to give more than a bare idea of the reality.

In the first place, if we look through the telescope of Kirchhoff's instrument, having placed a flame colored yellow by a sodium

compound in front of the slit through which the light falls on to the prisms, and thence into the telescope, we shall see the spectrum of sodium. We notice that it consists simply of two very fine bright yellow lines placed close together, all the rest of the field being perfectly dark. On investigation we find that all the compounds of the metal sodium give these two lines, and no other substance is met with in whose spectrum these lines occur. So excessively delicate is this indication of sodium—that is, so small a quantity of sodium salt suffices to bring forth a flash of these bright lines—that we discover sodium everywhere, in every particle of dust; in the motes visible in the sunbeam. We cannot touch any substance without imparting to it some soda salt from our hands. Hence it appears that Professor Bunsen was able to detect the presence of one one hundred and eighty millionth part of a grain of soda; and we learn without astonishment that common salt, derived from the ocean which covered two-thirds of the earth's surface, is always present in the atmosphere in a very finely divided solid form, which doubtless produces most important effects on the animal economy, and probably on all the phenomena of life.

If a small quantity of a potash salt, instead of the soda, be placed in the flame, it will be tinged purple; the potash spectrum consists of a portion of continuous light in the centre, bounded by a bright red and a bright violet line at either end. This peculiar appearance is alone caused by the compounds of potassium, and is produced by all the salts of this metal. So, too, with each metal we notice peculiar bright-colored bands, or lines, which are so distinct and characteristic that a glance through the telescope reveals, to an experienced eye, the presence of each of the metals of the alkalies and alkaline earths, when they occur or are combined together even in the minutest quantities. For none of these bright lines overlap or interfere with any other; the lines of each metal when all are present together, appear perfectly distinct. It is a hopeless task to endeavor by words to express the beauty of the phenomena which in this branch of science present themselves to the beholder; as well might we attempt to convey by description, to one who had not witnessed those scenes, the grandeur of the

high Alps, or the majesty of the flight of a comet through the heavens. Suffice it to say, with Kirchhoff, that the appearances here noticed "belong to the most brilliant optical phenomena which can be observed." Professor Bunsen thus describes what he saw when he placed a mixture of the salts of all the metals of the alkalies and alkaline earths into the flame, and observed the spectra thus produced:—

"I took," he says, "a mixture, consisting of chloride of sodium, chloride of potassium, chloride of lithium, chloride of calcium, chloride of strontium, chloride of barium, containing at most one one thousandth part of a grain of each substance. This mixture I put into the flame, and observed the result. First, the intense yellow sodium lines appeared on a background of a pale continuous spectrum; as these began to be less distinct, the pale potassium lines were seen, and then the red lithium line came out, whilst the barium lines appeared in all their vividness. The sodium, lithium, potassium, and barium salts were now almost all volatilized, and after a few moments the strontium and calcium lines came out as from a dissolving view, gradually attaining their characteristic brightness and form."

The most striking example of the value of this new power of analysis, and of its probable results, is that of the discovery of two new alkaline metals by Bunsen. This distinguished chemist, in examining the spectra of the alkalies contained in the mineral waters of Dürkheim in the Palatinate, observed some bright lines that he had not seen in any other alkalies which he had investigated. He was sure that no other metals but those of the alkalies could be present, because by well-known chemical processes, he had separated every other kind of metal. Hence he concluded that these new lines indicated the presence of an alkaline metal whose existence had as yet been overlooked. In fact, just as Adams and Leverrier, from the perturbations of the planet Uranus, predicted the existence of Neptune, so Bunsen, from the perturbations seen in the spectra of the alkalies, predicted the existence of a new member of the large family of the elementary bodies. So certain was Bunsen of his method, and so confident was he that his bright lines could not fail him, that, although the weight of substance from which he obtained his result only amounted to the one one thousandth part of a grain, he

hesitated not a moment, but began to evaporate forty tons of the water in order to get enough material to separate out his new metal, and examine all its chemical relations. No sooner, however, had he obtained more than a mere trace of the new substance, than he found that with it was associated a second new metal. From the forty tons of the water in question Bunsen got only about one hundred and five grains of the chloride of one metal, and one hundred and thirty-five grains of the chloride of the other; in such minute quantities do these substances occur! Yet, thanks to the skill and patient industry of the great chemist of Heidelberg, these difficulties were triumphantly overcome, and we now possess a chemical history of these two new metals as complete and well authenticated as that of the commoner alkalies. The names wisely chosen for these substances indicate the nature of their origin, and point out the property by help of which they were discovered. Bunsen calls one of them "*Cæsium*," from *cæsius* bluish gray, because the spectrum of this metal is distinguished by two splendid violet lines; the other he named "*Rubidium*," from *rubidus* dark red, owing to the presence of two bright red rays at the least refrangible extremity of its spectrum. Since the publication of the discovery of these metals, their salts have been found to be pretty commonly diffused; but, owing to their close resemblance to the compounds of potassium, they were not recognized as separate substances; in fact, had it not been for this new method, we should not have been able to distinguish them from the well-known alkali potash. *Cæsium* and *Rubidium* occur in the water of almost every salt spring; and they have likewise been found in the ashes of plants, especially in those of beet-root, so that they must be contained in the soil; but in all these cases the quantity in which they are found is very minute. The mineral lepidolite contains a certain quantity of *Rubidium*, which now may be obtained by the pound; but *Cæsium* is still extremely rare.

It is satisfactory to learn that in a similar way the existence of another new metal has been pointed out by Mr. Crookes. This body is characterized by a spectrum containing one bright green band, and has been called "*Thallium*."*

* This new element has lately been prepared in somewhat larger quantities by M. Lamy from the

In an article like the present it is impossible to enter minutely into the details of such discoveries, or even to mention more than the most striking points by way of illustration. Enough has, however, been said to show the enormous fertility of this field of research, and to give an idea of the principles upon which the method depends. We anticipate, more especially, important results to the art of medicine from the application of this analytical process to mineral waters, as they are termed, noted for their therapeutic qualities. The composition of these waters, their apparently inexhaustible faculty of reproduction, their modes of affecting the human frame in various states of health and disease, are only known as yet empirically. Yet it is impossible to doubt or deny that waters, like those of Carlsbad, Aix-la-Chapelle, or Bagnères de Luchon, contain certain agents of the most powerful sanative character, which the means of chemical analysis hitherto employed do not appear to have reached. It is extremely probable that the application of spectral analysis to the elements contained in these springs will bring them within the range of accurate medical knowledge, and perhaps extend the resources of medicine itself.

The field of spectrum analysis was not wholly untrodden until it was explored by the two German professors. Even so long ago as 1826, Mr. Fox Talbot, a gentleman whose name is honorably associated with discoveries in that most beautiful of the modern applications of science to art—Photography—made some experiments upon the spectra of colored flames, and pointed out the advantages which such a method of analysis would possess. Professor Wheatstone, Mr. Swan, Sir David Brewster, and Professor W. Allen Miller in our own country, and Angström, Plücker, Masson, and others on the Continent, have likewise contributed to our knowledge of this subject; but whatever may have been done by others for the establishment of the new method, it must be admitted that the names of Bunsen and Kirchhoff will justly go down to posterity as the founders of the Science of Spectrum Analysis; for they first established it on a firm

scientific basis, by applying to it the modern methods of exact research.

For the purpose of obtaining the peculiar spectra of iron, platinum, copper, and most of the other metals, these metals must be exposed to a much higher temperature than that of a gas flame, to which they impart no color. This high temperature is best attained by the use of the electric spark. So great, indeed, is the heat developed by this agent, that a single electric discharge past through a gold wire dissipates the metal at once in vapor. Our illustrious Faraday—the founder of so many branches of electrical science—first showed that the electric spark was produced by the intense ignition of the particles composing the poles; and Professor Wheatstone proved that if we look at the spark proceeding from two metallic poles, through a prism, we see spectra containing bright lines which differ according to the kind of metal employed. "These differences," said Wheatstone, writing in 1834, "are so obvious, that any one metal may instantly be distinguished from others by the appearance of its spark; and we have here a mode of discriminating metallic bodies more ready than a chemical examination, and which may hereafter be employed for useful purposes." This has, indeed, turned out to be a true prediction.

The large number of bright lines which are seen in the spark spectrum are not all caused by the glowing vapor of the metal forming the poles; a portion of them proceed, as Angström first pointed out, from the particles of gas or air, through which the spark passes, becoming luminous also, and emitting their own peculiar light. Thus, if we examine the spectrum of an electric spark passing from two iron poles in the air, we see at least three superimposed spectra, one of the iron, one of the oxygen, and a third of the nitrogen of the air.* By help of a little mechanical device, it is easy to distinguish between the air lines and the true metallic lines, and in this way to detect the various metals. So certain and accurate is this method that Professor Kirchhoff has, without difficulty, been able to detect and distinguish the presence of minute traces of the

residues of the Belgian sulphuric acid chambers. He finds that in its specific gravity and outward properties it closely resembles the metal lead, but that it possesses very peculiar chemical characteristics.

* The spectra of the permanent gases, as well as those of the other non-metallic elements, have been accurately examined by Professor Plücker, of Bonn.

rare metals Erbium and Terbium, as well as Cerium, Lanthanum, and Didymium, when they are mixed together; a feat which the most experienced analyst would find it almost impossible, even after the most lengthened and careful investigation, to accomplish with the older methods.

In endeavoring to form an idea of the present and future bearings of the science of spectrum analysis as applied to the investigation of terrestrial matter, we must remember that the whole subject is as yet in its earliest infancy; that the methods of research are scarcely known; and that speculations as to the results which further experiments will bring forth, are therefore, for the most part, idle and premature. We may, however, express our opinion that a more intimate knowledge of the nature of the so-called elements, if it is to be attained at all, is to be sought for in the relations which the spectra of these substances present; and if a "transmutation" of these elementary bodies be effected, as is by no means impossible, it will be effected, by help of the new science of spectrum analysis. That we shall thus gradually attain a far more accurate knowledge of the composition of the earth's crust than we now possess, is perfectly certain; nor is it less certain, that with the progress of the investigation, other new elementary bodies will be added to our already somewhat overgrown chemical family.

So long ago as 1815, Fraunhofer made the important observation, that the two bright yellow lines which we now know to be the sodium lines, were coincident with, or possessed the same degree of refrangibility as, two dark lines in the solar spectrum called by Fraunhofer the lines D. A similar coincidence was observed by Sir David Brewster, in 1842, between the bright red line of potassium and a dark line in the solar spectrum called Fraunhofer's A. The fact of the coincidence of these lines is easily rendered visible if the solar spectrum is allowed to fall into the upper half of the field of our telescope, whilst the sodium or potassium spectrum occupies the lower half. The bright lines produced by the metal, as fine as the finest spider's web, are then seen to be exact prolongations, as it were, of the corresponding dark solar lines.

Although the fact of the coincidence of several bright metallic lines with the dark

solar lines was well known, yet the exact connection between the two phenomena was not understood until Professor Kirchhoff, in the autumn of 1859, investigated the subject. Nevertheless, before he gave the exact proof of their connection, some few bold minds had foreseen the conclusions to which these observations must lead, and had predicted the existence of sodium in the sun. Foremost among these stand Professors Stokes and William Thomson, and the Swedish philosopher Angström. It is, however, to Kirchhoff that we are indebted for the full and scientific investigation of the subject, and he must be considered as the founder of the science of solar and stellar chemistry.

Wishing to test the accuracy of this frequently asserted coincidence of the bright metallic and dark solar lines with his very delicate instrument, Professor Kirchhoff made the following very remarkable experiment, which is interesting as giving the key to the solution of the problem regarding the existence of sodium and other metals in the sun:—

"In order to test in the most direct manner possible the frequently asserted fact of the coincidence of the sodium lines with the lines D, I obtained a tolerably bright solar spectrum, and brought a flame colored by sodium vapor in front of the slit. I then saw the dark lines D change into bright ones. The flame of a Bunsen's lamp threw the bright sodium lines upon the solar spectrum with unexpected brilliancy. In order to find out the extent to which the intensity of the solar spectrum could be increased without impairing the distinctness of the sodium lines, I allowed the full sunlight to shine through the sodium flame, and to my astonishment I saw that the dark lines D appeared with an extraordinary degree of clearness. I then exchanged the sunlight for the Drummond's or oxy-hydrogen lime-light, which, like that of all incandescent solid or liquid bodies, gives a spectrum containing no dark lines. When this light was allowed to fall through a suitable flame colored by common salt, dark lines were seen in the spectrum in the position of the sodium lines. The same phenomenon was observed if instead of the incandescent lime a platinum wire was used, which being heated in a flame was brought to a temperature near its melting point by passing an electric current through it. The phenomenon in question is easily explained upon the supposition that the sodium flame

absorbs rays of the same degree of refrangibility as those it emits, whilst it is perfectly transparent for all other rays." (*Kirchhoff. Researches, etc.*, pp. 13, 14.)

Thus Kirchhoff succeeded in producing artificial sunlight, at least as far as the formation of one of Fraunhofer's lines is concerned. He proved that the yellow soda flame possesses this—at first sight anomalous—property of absorbing just that kind of light which it emits; it is opaque to the yellow D light, but transparent to all other kinds of light. Hence, if the yellow rays in the spectrum produced by the Drummond's light in the above experiment are more intense than those given off by the soda flame, we shall see in the yellow part of the spectrum shadows, or dark lines; and if the difference of intensity be very great, these shadows may by contrast appear perfectly black. This opacity of heated sodium vapor for the particular kind of light which it is capable of giving off, was strikingly exhibited by Professor Roscoe, in one of a course of lectures on Spectrum Analysis, lately delivered by him in London at the Royal Institution. A glass tube, containing a small quantity of metallic sodium, was rendered vacuum and then closed. On heating the tube, the sodium rose in vapor, filling a portion of the empty space. Viewed by ordinary white light this sodium vapor appeared perfectly colorless, but when seen by the yellow light of a soda-flame the vapor cast a deep shadow on a white screen, showing that it did not allow the yellow rays to pass through.

This remarkable property of luminous gases to absorb the same kind of light as they emit, is not without analogy in the cognate science of Acoustics. Sound is produced by the vibration of the particles of gravitating matter, whilst light is supposed to be produced by a similar vibration of the particles of a non-gravitating matter, called the luminiferous ether. In the case of sound, a similar phenomenon to the one under consideration is well known. We are all acquainted with the principle of resonance; if we sound a given note in the neighborhood of a pianoforte, the string capable of giving out the vibrations producing that note takes up the vibrations of the voice, and we hear it answering the sound. The intenser vibrations proceeding in one direction are ab-

sorbed by the string, and emitted as waves of slighter intensity in every direction.

Not only did Professor Kirchhoff show experimentally that luminous gases absorb the kind of light which they emit, by reversing the spectra of several of the metals, but by help of theoretical considerations he arrived at a very important general formula concerning the emission and absorption of rays of heat and light, which includes these phenomena as a particular case. The general law is called the *law of exchanges*, and it asserts that the relation between the amount of heat or of light which all bodies receive and emit is for a given temperature constant. Somewhat similar results were arrived at independently by Mr. Balfour Stewart in this country.

In order to determine and map the positions of the bright lines produced by the electric spectra of the various metals, Kirchhoff employed the dark lines in the solar spectrum as his guides. Much to his astonishment, he observed that dark solar lines occur in positions coincident with those of all the bright iron lines. Exactly as the sodium lines were identical in position with Fraunhofer's lines D, for each of the iron lines (and Kirchhoff examined more than sixty) a dark solar line was seen to correspond. Not only had each bright iron line its dark representative in the solar spectrum, but the breadth and degree of distinctness of the two sets of lines agreed in the most perfect manner; the brightest iron lines corresponding to the darkest solar lines. These coincidences cannot be the mere effect of chance; in other words, there must be some casual connection between these dark solar lines and the bright iron lines. That this agreement between them cannot be simply fortuitous is proved by Kirchhoff, who calculates—from the number of the observed coincidences, the distances between the several lines, and the degree of exactitude with which each coincidence can be determined—the fraction representing the chance or probability that such a series of coincidences should occur without the two sets of lines having any common cause; this fraction he finds to be less than $1-1,000,000,000,000,000,000$, or, in other words, it is practically certain that these lines have a common cause.

"Hence this coincidence," says Kirchhoff,

"must be produced by some cause, and a cause can be assigned which affords a perfect explanation of the phenomenon. The observed phenomenon may be explained by the supposition that the rays of light which form the solar spectrum have passed through the vapor of iron, and have thus suffered the absorption which the vapor of iron must exert. As this is the only assignable cause of this coincidence, the supposition appears to be a necessary one. These iron vapors might be contained either in the atmosphere of the sun or in that of the earth. But it is not easy to understand how our atmosphere can contain such a quantity of iron vapor as would produce the very distinct absorption-lines which we see in the solar spectrum; and this supposition is rendered still less probable by the fact that these lines do not appreciably alter when the sun approaches the horizon. It does not, on the other hand, seem at all unlikely, owing to the high temperature which we must suppose the sun's atmosphere to possess, that such vapors should be present in it. Hence the observations of the solar spectrum appear to me to prove the presence of iron vapor in the solar atmosphere with as great a degree of certainty as we can attain in any question of natural science." (*Kirchhoff. Researches, etc., p. 20*).

This statement is not one jot more positive than the facts warrant. For to what does any evidence in natural science amount to, beyond the expression of a probability? A mineral sent to us from New Zealand is examined by our chemical tests, of which we apply a certain number, and we say these show us that the mineral contains iron, and no one doubts that our conclusion is correct. Have we, however, in this case proof positive that the body really is iron? May it not turn out to be a substance which in these respects resembles, but in other respects differs from, the body which we designate as iron? Surely. All we can say is, that in each of the many comparisons which we have made the properties of the two bodies prove identical; and it is solely this identity of the properties which we express when we call both of them iron. Exactly the same reasoning applies to the case of the existence of these metals in the sun. Of course the metals present there, causing these dark lines, may not be identical with those which we have on earth; but the evidence of their being the same is as strong and cogent as that which is brought to bear upon any

other question of natural science, the truth of which is generally admitted.

We do not think we can give our readers a more clear and succinct account of the development of this great discovery than by quoting from Kirchhoff's admirable memoir the following passage:—

"As soon as the presence of *one* terrestrial element in the solar atmosphere was thus determined, and thereby the existence of a large number of Fraunhofer's lines explained, it seemed reasonable to suppose that other terrestrial bodies occur there, and that, by exerting their absorptive power, they may cause the production of other Fraunhofer's lines. For it is very probable that elementary bodies which occur in large quantities on the earth, and are likewise distinguished by special bright lines in their spectra, will, like iron, be visible in the solar atmosphere. This is found to be the case with calcium, magnesium, and sodium. The number of bright lines in the spectrum of each of these metals is indeed small, but those lines, as well as the dark lines in the solar spectrum with which they coincide, are so uncommonly distinct that the coincidence can be observed with great accuracy. In addition to this, the circumstance that these lines occur in groups renders the observation of the coincidence of these spectra more exact than is the case with those composed of single lines. The lines produced by chromium, also, form a very characteristic group, which likewise coincides with a remarkable group of Fraunhofer's lines; hence, I believe that I am justified in affirming the presence of chromium in the solar atmosphere. It appeared of great interest to determine whether the solar atmosphere contains nickel and cobalt, elements which invariably accompany iron in meteoric masses. The spectra of these metals, like that of iron, are distinguished by the large number of their lines. But the lines of nickel, and still more those of cobalt, are much less bright than the iron lines, and I was therefore unable to observe their position with the same degree of accuracy with which I determined the position of the iron lines. All the brighter lines of nickel appear to coincide with dark solar lines; the same was observed with respect to some of the cobalt lines, but was not seen to be the case with other equally bright lines of this metal. From my observations I consider that I am entitled to conclude that nickel is visible in the solar atmosphere; I do not, however, yet express an opinion as to the presence of cobalt. Barium, copper, and zinc appear to be present in the solar atmos-

phere, but only in small quantities; the brightest of the lines of these metals correspond to distinct lines in the solar spectrum, but the weaker lines are not noticeable. The remaining metals which I have examined—viz., gold, silver, mercury, aluminum, cadmium, tin, lead, antimony, arsenic, strontium, and lithium—are, according to my observations, not visible in the solar atmosphere." (*Kirchhoff. Researches, etc.*, p. 21.)

We are now in a position to understand why the discovery of the existence of these metals in the sun is no myth, no vague supposition, or possible contingency. We now see that this conclusion is derived, by a severely correct process of inductive reasoning, from a series of exact and laborious experiments and observations, and that the presence of these metals in the solar atmosphere has been determined with as great a degree of certainty as is attainable in any question of physical science. But it is only to those who have witnessed the spectacle of the coincidence of the bright iron with the dark solar lines, shown in such an apparatus as that of Kirchhoff's, that it is given adequately to feel the force of this conclusion; and the impression made by such a sight is not one likely to be easily effaced from the mind.

The mode in which new and perhaps startling facts in science, such as those we are now considering, are unwittingly misinterpreted and misapplied by certain minds to suit their own preconceived notions, must be an interesting branch of study to the psychologist. The Heidelberg professors received a letter from a worthy farmer in Silesia thanking them for the great discovery they had made; it had particularly interested him, as it confirmed in a remarkable manner a theory which he had himself long held respecting the nutrition of plants; he believed that all artificial addition of inorganic materials to the plants in the shape of manure, was quite unnecessary, as the plants obtained the alkalies, the phosphorus, and the silica, etc., which they require, if a sufficient supply be not present in the soil, from the *sunlight*! The Heidelberg professors, he continues, had clearly proved the presence of sodium, potassium, iron, and magnesium (all substances needed by plants), in the *sunlight*, and he felt sure that his the-

ory of vegetable nutrition now required no further proof, but must at once be adopted by the previously incredulous world.

As a similar instance of this unconscious perversion of facts, we may mention the case of an English gentleman who believed that by a series of elaborate experiments he had proved the presence of iron in the *sunlight*! In spite of the previous caution of an eminent man of science, this gentleman was induced to publish his views, because, as he says, "the whole scope and object of Bunsen's and Kirchhoff's experiments are to prove the possibility of the most minute particles of metal existing in light, and the probability of certain dark lines in the solar spectrum being formed by iron!" Thus, the fact of the existence of iron in the body of the sun, at a distance of ninety-five million miles, is represented by these scientific fanatics—we really can use no milder term—as being identical with the existence of iron in the sunlight, which, travelling at the rate of one hundred and ninety-two thousand miles per second, bathes the whole universe in its vivifying beams.

Of stellar chemistry applied to other self-luminous celestial bodies, we have at present but little knowledge. Fraunhofer, as we have already stated, observed that the spectra of the fixed stars contained dark lines differing from those seen in the solar spectrum. The half-century which has elapsed since Fraunhofer made these observations has not brought us further knowledge on this point, although it has assured us of the truth of his statements. In the spectrum of Sirius he observed no dark lines in the orange-colored region; but in the green there was a distinct line, and in the blue two dark bands, none of which were seen in solar light. The spectra of other stars were likewise examined by Fraunhofer, and they appeared each to differ from the other. The difficulties attending the exact observation and measurement of the dark lines in the spectra of the stars are, of course, very great: but, with the aid of the vastly improved optical instruments of the present day, we believe that astronomers will overcome these difficulties; and we look forward with interest to no far distant time, when we shall receive some clue to the cause of the color of those wonderful blue and red stars which appear

to be confined to certain quarters of the heavens.*

In the last chapter of Professor Kirchhoff's memoir he leaves the sure road of inductive reasoning, and puts forward a theory on the physical condition of the sun. Doubtless the professor is as well aware as any one can be of the great difference between his discovery of the existence of the metals in the sun and his physical theory of the solar constitution. One is an ascertained fact, the other is a mere hypothesis. It is, however, necessary to point out this difference, lest many who may not agree with the theory of the physical constitution of the sun proposed by Kirchhoff should think themselves at liberty to discard his discovery of the presence of the metals in the solar atmosphere. It is not possible to give here the arguments which may be adduced in favor of, or in opposition to, Professor Kirchhoff's theory. Scarcely, indeed, can we do more than quote one or two passages from his memoir, to give an idea of his views respecting the structure of the sun:—

"In order to explain," he says, "the occurrence of the dark lines in the solar spectrum, we must assume that the solar atmosphere encloses a luminous nucleus, producing a continuous spectrum, the brightness of which exceeds a certain limit. The most probable supposition which can be made respecting the sun's constitution is, that it consists of a solid or liquid nucleus, heated to a temperature of the brightest whiteness, surrounded by an atmosphere of somewhat lower temperature. This supposition is in accordance with Laplace's celebrated nebular theory respecting the formation of our planetary system. If the matter, now concentrated in the several heavenly bodies, existed in former times as an extended and continuous mass of vapor, by the contraction of which sun, planets, and moons have been formed, all these bodies must necessarily possess mainly the same constitution. Geology teaches us that the earth once existed in a state of fusion; and we are compelled to admit that the same state of things has occurred in the other members of our solar

* We rejoice to see, from his last annual report, that the Astronomer-Royal is about to undertake the examination of the spectra of the fixed stars. He remarks, "I have prepared a prism-apparatus to be used in conjunction with the SE. Equatorial for the examination of the fixed stars; but hitherto I have been able to do little more than adjust its parts."

system. The amount of cooling which the various heavenly bodies have undergone, in accordance with the laws of radiation of heat, differs greatly, owing mainly to the difference in their masses. Thus, whilst the moon has become cooler than the earth, the temperature of the surface of the sun has not yet sunk below a white heat.

"Our terrestrial atmosphere, in which now so few elements are found, must have possessed, when the earth was in a state of fusion, a much more complicated composition, as it then contained all those substances which are volatile at a white heat. The solar atmosphere at this present time possesses a similar constitution. The idea that the sun is an incandescent body is so old, that we find it spoken of by the Greek philosophers. When the solar spots were first discovered, Galileo described them as being clouds floating in the gaseous atmosphere of the sun, appearing to us as dark spots on the bright body of the luminary. He says, that if the earth were a self-luminous body, and viewed at a distance, it would present the same phenomena as we see in the sun." (*Kirchhoff: Researches, etc.*, p. 24.)

Certain appearances connected with those spots on the sun's surface have induced astronomers in general to adopt a different theory of the constitution of the sun from that proposed by Galileo and supported by Kirchhoff. This theory supposes, according to Sir William Herschel, that the centre of the spot reveals a portion of the dark surface of the sun, seen through two overlying openings—one formed in a photosphere, or luminous atmosphere, surrounding the dark solid nucleus, and the other in a lower, opaque, or reflecting atmosphere. The supposition of the existence of such an intensely ignited photosphere surrounding a cold nucleus is, according to Kirchhoff, a physical absurdity. He puts forward his views on this point clearly and forcibly in the following passage:—

"The hypothesis concerning the constitution of the sun which has been thus put forward in order to explain the phenomena of the sun-spots, appears to me to stand in such direct opposition to certain well-established physical laws, that, in my opinion, it is not tenable, even supposing that we were unable to give any other explanation of the sun-spots. This supposed photosphere must, if it exists, radiate heat towards the sun's body as well as from it. Every particle of the upper layer of the lower or opaque atmosphere will therefore be heated to a temperature at

least as high as that to which it would be raised if placed on the earth, exposed to the sun's rays, in the focus of a circular mirror whose surface, seen from the focus, is larger than a hemisphere. The less transparent the atmosphere is, the quicker will this temperature be attained, and the smaller will be the distance to which the direct radiation of the photosphere will penetrate into the mass of the atmosphere. What degree soever of opacity the atmosphere may possess, it is certain that in time the heat will be transmitted, partly by radiation, partly by conduction and convection, throughout the whole mass; and if the atmosphere ever had been cold, it is clear that in the course of ages it must have become intensely heated. This atmosphere must act on the nucleus in the same way as the photosphere acts upon it; the nucleus must likewise become heated to the point of incandescence. It must therefore give off light and heat; for all bodies begin to glow at the same temperature." (*Kirchhoff. Researches, etc., pp. 25, 26.*)

Our author then proceeds to account for the phenomena of the solar spots by the supposition of two superimposed layers of clouds being formed in the solar atmosphere. One of these, being dense and near the sun's surface, does not allow the light of the underlying portion of the sun to pass, and forms the nucleus of the spot; whilst the other being produced at a higher elevation, is less dense, and forms what we term the penumbra.

It is unfortunate for Kirchhoff's theory that the unanimous verdict of all who have examined these singular phenomena is in favor of their being funnel-shaped depressions. Preconceived notions have, however, so powerful an influence over the mind, and it is so difficult to obtain a truthful estimate of relative depression and elevation at such distances, that we are willing to believe that astronomers may possibly be mistaken in their views on this subject. There is, however, one method of observation which would seem qualified to settle the disputed question. If the astronomers' view of the construction of the spots is correct, the dark nucleus never can be seen beyond the penumbra, when the spot moves round towards the sun's limb. On Kirchhoff's view such a separation of the two clouds forming nucleus and penumbra is perfectly possible, and when they have nearly reached the edge of the sun's disc, we ought to see the dark

cloud below, and separate from the upper one. Such a separation, however, has not been noticed, and on the other hand we may adduce the following observation of Sir William Herschel as leading to a directly opposite conclusion:—

"Oct. 13, 1794. The spot in the sun, I observed yesterday, is drawn so near the margin, that the elevated side of the following part of it hides all the black ground, and still leaves the cavity visible, so that the depression of the black spots and the elevation of the facule are equally evident."

The more the question of the physical constitution of the sun is considered, the more does it appear that we have no right to make up our minds concerning it, either in one way or the other. Seeing how little is really known about the matter, with the true spirit of scientific inquirers, we hold ourselves open to conviction as soon as satisfactory evidence shall be brought forward. The singular observations first made by Mr. James Nasmyth,* a few months ago, concerning the physical condition of the sun's surface—observations so novel that astronomers were loth to receive them as facts until they were confirmed by other observers—need only to be mentioned in order to show that we are not in a position to uphold any theory whatever of the physical constitution of our great luminary. Mr. Nasmyth asserts, and his assertion has been confirmed by the subsequent observations of more than one competent observer, that the well-known mottled appearance which the surface of the sun exhibits is due to the presence of "willow-leaf-shaped" luminous bodies, which, interlacing as it were, cover the whole surface of the sun. These most singular forms can be well observed, according to Mr. Nasmyth, in the "bridges" or streaks of light which cross the dark spots, and they are there seen to move with an astonishing velocity. Imagination itself fails to give us the slightest clue to the probable constitution of these most recent of astronomical novelties!

The beautiful red prominences seen projecting from the sun's disc during a total solar eclipse, and reaching to a height of forty thousand miles above the sun's visible surface, are likewise objects whose existence cannot be reconciled with any of the proposed

* *Memoirs of the Literary and Philosophical Society of Manchester.* 3d Series, vol. i. p. 407.

theories of the sun's structure. Thanks to Mr. De la Rue, we have attained some knowledge concerning these wonderful flames, as, by the help of photography, this gentleman has succeeded in proving that the prominences really belong to the sun; and are not caused in any way by the light passing over the interposed surface of the moon, as was by some imagined.

In considering the subject of solar chemistry, or indeed of any other novel branch of science, we cannot be too frequently re-

minded of the incompleteness of our knowledge. This is especially the case with reference to the subject to which we have now directed the attention of our readers. But although the results of these agencies are still very imperfect, and leave ample space for the labors of future investigators, yet the discovery of this new method of analysis is at once so original and so important, that we do not hesitate to rank it among the greatest achievements of science in this age, and we await with great curiosity its further application.

A LIVE YANKEE IN CHINA.—Some months ago a brief notice was given in this paper of an American named Frederick Ward, who, by his daring, added to a stroke of good luck, had ranked himself high in the list of Chinese Mandarins. A Shanghai letter in the *New York Herald* gives a full and interesting account of this character, and of the means through which he attained his dignity and his fortune—estimated to be immensely large—from which we take a few extracts:—*Boston Journal*.

"Two or three years ago the mate of a coasting vessel came to Shanghai. He was neither better nor worse than mates usually are. He was a green, boyish-looking fellow, with a fair skin, and long black hair, which fell in glossy waves to his shoulders. There was no very great peculiarity about him, except that his eye showed a vigorous constitution and a most indomitable pluck. He was pretty hard up, and was unknown. He appeared hardly old enough to have been much of an adventurer; yet his life had been a romance from the first. He had been with Walker in his earlier expeditions, and had had a taste of civil warfare in the South American States. But it was not in the petty struggles of such marauders alone that he had been schooled. He had been in the Crimea during the terrible war which was enacted there. He had seen the world, in fact. He had occupied almost every position in the social scale, and at last came to Shanghai the mate of a coasting vessel, sound in health, and the owner of a great deal more brains than people generally gave him credit for. His name on the ship's articles was then plain Frederick Ward.

"Soon after his arrival, the city of Shanghai being threatened and pinched by the native rebels, neither the imperialists nor their allies, the English, could defend it. In this strait Admiral Hope, R. N., proposed, and perfected with him, a plan by which Mr. Ward might strike a blow at the rebel headquarters in Soongkong, a very well fortified city on the Woosung River. Ward organized a band of eighty Manilla men, ran up the river and took the place by storm, for which service he was paid the sum of forty thousand silver taels. His blood was up, and he wanted to take another city some thirty miles beyond

Soongkong, where the rebels had retired and intrenched themselves more strongly than before. The Touthichin chinned him exceedingly and told him to go in. He did go in, or, at least, as far as the walls, and fell shot in three places. He did not die, however—his constitution was too strong for that—but fell back upon Shanghai to recover from his wounds and plan another campaign. He was out again in a few weeks, but with a hole in the roof of his mouth of the size of a cherry-stone, which gave a sort of nasal twang to his speech. Meanwhile the gazettes came down from Peking, announcing his promotion to the rank of Colonel. He became a Chinese subject, married a Chinese woman of the small-footed kind, and was created a Mandarin of the blue button.

"When the rebels threatened Shanghai, the French and English Admirals and Ward put their heads together and planned out a campaign against the invaders. Ward's Chinamen were placed alongside the English and French forces, and they didn't disgrace themselves. They fought as well as any troops can fight, showing that good soldiers can be made even of Chinamen. The allied forces cleaned the rebels out pretty effectually, news of which reached Peking, and shortly came the gazette announcing that Ward was promoted to the rank of general and had his button raised another grade.

"Ward has offered Prince Kung to put down the rebellion for ten millions of dollars, and the prince asserts that such a reward would be insignificant in comparison with the extent of the labor. Ward is now quietly drilling his new recruits, and swelling his army daily, preparing for the next coming down of the rebels, which will ensue upon the approach of winter.

"So far as personal appearance goes, Ward is the very ideal of a hero. His face now, from much exposure, is pretty well bronzed, but is naturally very pale and full and round. His hair is of the deepest black, and he wears it falling in curls to his shoulders; and a slight imperial and mustache serve to make the palor of his face more noticeable. His person is slight, but all muscle. Although not above five feet in height, and with a build exceedingly diminutive, he has been known to whip half a dozen six-footers with an ease and rapidity truly astonishing."

CHAPTER XXIV.

A FORTNIGHT's time rather increased than diminished the excitement incident on the event at Russell Square.

Never was there such a wonderful baby, and never was there such a fuss made over it. Unprejudiced persons might have called it an ugly weakly little thing; indeed, at first there were such apprehensions of its dying, that it had been baptized in a great hurry, "Henry Leaf Ascott," according to the mother's desire, which in her critical position nobody dared to thwart. Even at the end of fourteen days, the "son and heir" was still a puling, sickly, yellow-faced baby. But to the mother it was everything.

From the moment she heard its first cry Mrs. Ascott's whole nature seemed to undergo a change. Her very eyes—those cold blue eyes of Miss Selina, took a depth and tenderness whenever she turned to look at the little bundle that lay beside her. She never wearied of touching the tiny hands and feet, and wondering at them, and showing—to every one of the household who was favored with a sight of it—"my baby," as if it had been a miracle of the universe. She was so unutterably happy and proud.

Elizabeth, too, seemed not a little proud of the baby. To her arms it had first been committed; she had stood by at its first washing and dressing, and had scarcely left it or her mistress since. Nurse, a very grand personage, had been a little jealous of her at first, but soon grew condescending, and made great use of her in the sick-room, alleging that such an exceedingly sensible young person, so quiet and steady, was almost as good as a middle-aged married woman. Indeed, she once asked Elizabeth if she was a widow, since she looked as if she had "seen trouble;" and was very much surprised to learn she was single and only twenty-three years old.

Nobody else took any notice of her. Even Miss Hilary was so engrossed by her excitement and delight over the baby, that she only observed, "Elizabeth, you look rather worn out; this has been a trying time for you." And Elizabeth had just answered "Yes,"—no more.

During the fortnight she had seen nothing of Tom. He had written her a short note or two, and the cook told her he had been to the kitchen-door several times asking for her,

but being answered that she was with her mistress up-stairs, had gone away.

"In the sulks, most like, though he didn't look it. He's a pleasant-spoken young man, and I'm sure I wish you luck with him," said cookie, who, like all the other servants, was now exceedingly civil to Elizabeth.

Her star had risen; she was considered in the household a most fortunate woman. It was shortly understood that nurse—majestic nurse, had spoken so highly of her, that at the month's end the baby was to be given entirely into her charge, with, of course, an almost fabulous amount of wages.

"Unless," said Mrs. Ascott, when this proposition was made, suddenly referring to a fact which seemed hitherto to have quite slipped from her mind, "unless you are still willing to get married, and think you would be happier married. In that case I won't hinder you. But it would be such a comfort to me to keep you a little longer.

"Thank you, ma'am," answered Elizabeth softly, and busied herself with walking baby up and down the room, hushing it on her shoulder. If in the dim light tears fell on its puny face, God help her, poor Elizabeth!

Mrs. Ascott made such an excellent recovery, that in three weeks' time nobody was the least anxious about her, and Mr. Ascott arranged to start on a business journey to Edinburgh; promising, however, to be back in three days for the Christmas dinner, which was to be a grand celebration. Miss Leaf and Miss Hilary were to appear thereat in their wedding-dresses; and Mrs. Ascott herself took the most vital interest in Johanna's having a new cap for the occasion. Nay, she insisted upon ordering it from her own milliner, and having it made of the most beautiful lace—the "sweetest" old lady's cap that could possibly be invented.

Evidently this wonderful baby had opened all hearts, and drawn every natural tie closer. Selina, lying on the sofa, in her graceful white wrapper, and her neat close cap, looked so young, so pretty, and, above all, so exceedingly gentle and motherly, that her sisters' hearts were full to overflowing. They acknowledged that happiness like misery was often brought about in a fashion totally unforeseen and incredible. Who would have thought, for instance, on that wretched night when Mr. Ascott came to Hilary at Kensington, or on that dreary heartless wedding-

day, that they should ever have been sitting in Selina's room, so merry and comfortable, admiring the baby, and on the friendliest terms with baby's papa?

"Papa" is a magical word, and let married people have fallen ever so wide asunder, the thought, "my child's mother," "my baby's father," must in some degree bridge the gulf between them. When Peter Ascott was seen stooping, awkwardly enough, over his son's cradle, poking his dumpty fingers into each tiny cheek in a half-alarmed, half-investigating manner, as if he wondered how it had all come about, but, on the whole, was rather pleased than otherwise—the good angel of the household might have stood by and smiled, trusting that the ghastly skeleton therein might in time crumble away into harmless dust, under the sacred touch of infant fingers.

The husband and wife took a kindly, even affectionate, leave of one another. Mrs. Ascott called him "Peter," and begged him to take care of himself, and wrap up well that cold night. And when he was gone, and her sisters also, she lay on her sofa with her eyes open, thinking. What sort of thoughts they were, whether repentant or hopeful, solemn or tender, whether they might have passed away and been forgotten, or how far they might have influenced her life to come, none knew, and none ever did know.

When there came a knock at the door, and a message for Elizabeth, Mrs. Ascott suddenly overheard it and turned round.

"Who is wanting you? Tom Cliffe? Isn't that the young man you are to be married to? Go down to him at once. And stay, Elizabeth, as it's such a bitter night, take him for half an hour into the housekeeper's room. Send her up-stairs, and tell her I wished it, though I don't allow 'followers.'"

"Thank you, ma'am," said Elizabeth once more, and obeyed. She must speak to Tom some time, it might as well be done to-night as not. Without pausing to think, she went down with dull, heavy steps to the housekeeper's room.

Tom stood there alone. He looked so exactly his own old self; he came forward to meet her so completely in his old familiar way, that for the instant she thought she must be under some dreadful delusion; that the moonlight night in the square must have

been all a dream;—Esther, still the silly little Esther, whom Tom had often heard of and laughed at; and Tom, her own Tom, who loved nobody but her.

"Elizabeth, what an age it is since I've had a sight of you!"

But though the manner was warm as ever—

"In his tone
A something smote her, as if Duty tried
To mock the voice of Love, how long since
flown,"

and quiet as she stood, Elizabeth shivered in his arms.

"Why what's the matter? Aren't you glad to see me? Give me another kiss, my girl, do!"

He took it, and she crept away from him and sat down.

"Tom, I've got something to say to you, and I'd better say it at once."

"To be sure. 'Tisn't any bad news from home, is it? Or," looking uneasily at her, "I haven't vexed you, have I?"

"Vexed me," she repeated, thinking what a small foolish word it was to express what had happened, and what she had been suffering. "No, Tom, not vexed me exactly. But I want to ask you a question. Who was it that you stood talking with, under our tree in the square, between nine and ten o'clock, this night three weeks ago?"

Though there was no anger in the voice, it was so serious and deliberate that it made Tom start.

"Three weeks ago; how can I possibly tell?"

"Yes, you can: for it was a fine moonlight night, and you stood there a long time."

"Under the tree, talking to somebody? What nonsense! Perhaps it wasn't me at all."

"It was, for I saw you."

"The devil you did!" muttered Tom.

"Don't be angry, only tell me the plain truth. The young woman that was with you was our Esther here, wasn't she?"

For the moment Tom looked altogether confounded. Then he tried to recover himself, and said, crossly, "Well, and if it was, where's the harm? Can't a man be civil to a pretty girl without being called over the coals in this way?"

Elizabeth made no answer, at least not immediately. At last she said, in a very gentle, subdued voice,—

"Tom, are you fond of Esther? You would not kiss her if you were not fond of her. Do you like her as—as you used to like me?"

And she looked right up into his eyes. Hers had no reproach in them, only a piteous entreaty, the last clinging to a hope which she knew to be false.

"Like Esther? of course I do. She's a nice sort of girl, and we're very good friends."

"Tom, a man can't be 'friends' in that sort of way with a pretty girl of eighteen, when he is going to be married to somebody else. At least, in my mind, he ought not."

Tom laughed, in a confused manner. "I say, you're jealous, and you'd better get over it."

Was she jealous? was it all fancy, folly? Did Tom stand there, true as steel, without a feeling in his heart that she did not share, without a hope in which she was not united, holding her, and preferring her, with that individuality and unity of love, which true love ever gives and exacts, as it has a right to exact?

Not that poor Elizabeth reasoned in this way, but she felt the thing by instinct without reasoning.

"Tom," she said, "tell me outright, just as if I was somebody else, and had never belonged to you at all, do you love Esther Martin?"

Truthful people enforce truth. Tom might be fickle, but he was not deceitful; he could not look into Elizabeth's eyes and tell her a deliberate lie; somehow, he dared not.

"Well, then,—since you will have it out of me,—I think I do."

So Elizabeth's "ship went down." It might have been a very frail vessel, that nobody in their right senses would have trusted any treasure with, still she did; and it was all she had, and it went down to the bottom like a stone.

It is astonishing how soon the sea closes over this sort of wreck; and how quietly people take—when they must take, and there is no more disbelieving it—the truth which they would have given their lives to prove was an impossible lie.

For some minutes, Tom stood facing the fire, and Elizabeth sat on her chair opposite, without speaking. Then she took off her

brooch, the only love-token he had given her, and put it into his hand.

"What's this for?" asked he, suddenly.

"You know. You'd better give it to Esther. It's Esther, not me, you must marry now."

And the thought of Esther, giddy, flirting, useless Esther, as Tom's wife, was almost more than she could bear. The sting of it put even into her crushed humility a certain honest self-assertion.

"I'm not going to blame you, Tom; but I think I'm as good as she. I'm not pretty, I know, nor lively, nor young, at least I'm old for my age: but I was worth something. You should not have served me so."

Tom said, the usual excuse, "that he couldn't help it." And suddenly turning round, he begged her to forgive him, and not forsake him.

She forsake Tom! Elizabeth almost smiled.

"I do forgive you; I'm not a bit angry with you. If I ever was, I have got over it."

"That's right. You're a dear soul. Do you think I don't like you, Elizabeth?"

"Oh, yes," she said sadly, "I dare say you do, a little, in spite of Esther Martin. But that's not my way of liking, and I couldn't stand it."

"What couldn't you stand?"

"Your kissing me to-day, and another girl to-morrow: your telling me I was everything to you one week, and saying exactly the same thing to another girl the next. It would be hard enough to bear if we were only friends, but as sweethearts, as husband and wife, it would be impossible. No, Tom, I tell you the truth, I could not stand it."

She spoke strongly, unhesitatingly, and for an instant there flowed out of her soft eyes that wild, fierce spark, latent even in these quiet humble natures, which is dangerous to meddle with.

Tom did not attempt it. He felt all was over. Whether he had lost or gained; whether he was glad or sorry, he hardly knew.

"I'm not going to take this back, anyhow," he said, "fiddling" with the brooch; and then going up to her, he attempted, with trembling hands, to refasten it in her collar.

The familiar action, his contrite look, were too much. People who have once loved one another, though the love is dead,—for love

can die,—are not able to bury it all at once, or if they do, its pale ghost will still come knocking at the door of their hearts, "Let me in, let me in."

Elizabeth ought, I know, in proper feminine dignity, to have bade Tom farewell without a glance or a touch. But she did not. When he had fastened her brooch, she looked up in his familiar face, a sorrowful, wistful, lingering look, and then clung about his neck,—

"O Tom, Tom, I was so fond of you!"

And Tom mingled his tears with hers, and kissed her many times, and even felt his old affection returning, making him half oblivious of Esther: but mercifully—for love rebuilt upon lost faith is like a house founded upon sands—the door opened, and Esther herself came in.

Laughing, smirking, pretty Esther, who, thoughtless as she was, had yet the sense to draw back when she saw them.

"Come here, Esther," Elizabeth called, imperatively, and she came.

"Esther, I've given up Tom; you may take him if he wants you. Make him a good wife, and I'll forgive you. If not——"

She could not say another word. She shut the door upon them, and crept up-stairs, conscious only of one thought—if she only could get away from them, and never see either of their faces any more!

And in this fate was kind to her, though in that awful way in which fate—say rather Providence—often works; cutting with one sharp blow, some knot that our poor, feeble, mortal fingers have been long laboring at in vain; or making that which seemed impossible to do, the most natural, easy, and only thing to be done.

How strangely often in human life "one woe doth tread upon the other's heel!" How continually, while one of those small private tragedies that I have spoken of is being enacted within, the actors are called upon to meet some other tragedy from without, so that external energy counteracts inward emotion, and holy sympathy with another's sufferings stifles all personal pain. That truth about sorrows coming "in battalions" may have a divine meaning in it,—may be one of those mysterious laws which guide the universe,—laws that we can only trace in fragments, and guess at the

rest, believing in deep humility that one day we shall "know even as we are known."

Therefore I ask no pity for Elizabeth, because, ere she had time to collect herself, and realize in her poor confused mind that she had indeed said good-by to Tom, given him up and parted from him forever, she was summoned to her mistress' room, there to hold a colloquy outside the door with the seriously perplexed nurse.

One of those sudden changes had come which sometimes, after all seems safe, strike terror into a rejoicing household, and end by carrying away, remorseless, the young wife from her scarcely tasted bliss, the mother of many children from her close circle of happy duties and yearning loves.

Mrs. Ascott was ill. Either she had taken cold, or been too much excited, or in the over-confidence of her recovery some slight neglect had occurred—some trifle which nobody thinks of till afterwards, and which yet proves the fatal cause, the "little pin" that

"Bores through the castle wall"

of mortal hope, and King Death enters in all his awful state.

Nobody knew it or dreaded it; for though Mrs. Ascott was certainly ill, she was not at first very ill; and there being no telegraphs in those days, no one thought of sending for either her husband or her sisters. But that very hour, when Elizabeth went up to her mistress, and saw the flush on her cheek, and the restless expression of her eye, King Death had secretly crept in at the door of the mansion in Russell Square.

The patient was carefully removed back into her bed. She said little, except once, looking up uneasily,—

"I don't feel quite myself, Elizabeth."

And when her servant soothed her in the long familiar way, telling her she would be better in the morning, she smiled contentedly, and turned to go to sleep.

Nevertheless Elizabeth did not go to her bed, but sat behind the curtain, motionless, for an hour or more.

Towards the middle of the night, when her baby was brought to her, and the child instinctively refused its natural food, and began screaming violently, Mrs. Ascott's troubled look returned.

"What is the matter? What are you

doing, nurse? I wont be parted from my baby,—I wont, I say!”

And when, to soothe her, the little thing was again put into her arms, and again turned from her, a frightened expression came into the mother's face.

“Am I going to be ill?—is baby”——

She stopped; and as nurse determinately carried it away, she attempted no resistance, only followed it across the room with eager eyes. It was the last glimmer of reason there. From that time her mind began to wander, and before morning she was slightly delirious.

Still nobody apprehended danger. Nobody really knew anything about the matter, except nurse, and she, with a selfish fear of being blamed for carelessness, resisted sending for the doctor till his usual hour of calling. In that large house, as in many other large houses, everybody's business was nobody's business, and a member of the family, even the mistress, might easily be sick or dying in some room therein, while all things else went on just as usual, and no one was any the wiser.

About noon, even Elizabeth's ignorance was roused up to the conviction that something was very wrong with Mrs. Ascott, and that nurse's skill could not counteract it. On her own responsibility she sent, or rather she went to fetch the doctor. He came; and his fiat threw the whole household into consternation.

Now they knew that the poor lady whose happiness had touched the very stoniest hearts in the establishment, hovered upon the brink of the grave. Now all the women-servants, down to the little kitchen-maid with her dirty apron at her eyes, crept upstairs, one after the other, to the door of what had been such a silent, mysterious room, and listened, unhindered, to the ravings that issued thence. “Poor missis,” and the “poor little baby,” were spoken of softly at the kitchen dinner-table, and confidentially sympathized over with inquiring tradespeople at the area gate. A sense of awe and suspense stole over the whole house, gathering thicker hour by hour of that dark December day.

When her mistress was first pronounced “in danger,” Elizabeth, aware that there was no one to act but herself, had taken a brief opportunity to slip from the room and

write two letters, one to her master in Edinburgh, and the other to Miss Hilary. The first she gave to the footman to post; the second she charged him to send by special messenger to Richmond. But he, being lazily inclined, or else thinking that as the order was only given by Elizabeth, it was of comparatively little moment, posted them both. So, vainly did the poor girl watch and wait; neither Miss Leaf nor Miss Hilary came.

By night Mrs. Ascott's delirium began to subside, but her strength was ebbing fast. Two physicians—three—stood by the unconscious woman, and pronounced that all hope was gone, if, indeed, the case had not been hopeless from the beginning.

“Where is her husband? Has she no relations, no mother or sisters?” asked the fashionable physician, Sir——, touched by the sight of this poor lady dying alone, with only a nurse and a servant about her. “If she has, they ought to be sent for immediately.”

Elizabeth ran down-stairs, and rousing the old butler from his bed, prevailed on him to start immediately in the carriage, to bring back Miss Leaf and Miss Hilary. It would be midnight before he reached Richmond; still it must be done.

“I'll do it, my girl,” said he, kindly; “and I'll tell them as gently as I can. Never fear.”

When Elizabeth returned to her mistress' room, the doctors were all gone, and nurse, standing at the foot of Mrs. Ascott's bed, was watching her with the serious look which even a hireling or a stranger wears, in the presence of that sight which, however familiar, never grows less awful—a fellow-creature slowly passing from this life into the life unknown.

Elizabeth crept up to the other side. The change, indescribable yet unmistakable, which comes over a human face when the warrant for its dissolution has gone forth, struck her at once.

Never yet had Elizabeth seen death. Her father's she did not remember, and among her few friends and connections none other had occurred. At twenty-three years of age, she was still ignorant of that solemn experience which every woman must go through some time, often many times, during her life. For it is to women that all look in

their extreme hour. Very few men, even the tenderest-hearted, are able to watch by the last struggle and close the eyes of the dying.

For the moment, as she glanced round the darkened room, and then at the still figure on the bed, Elizabeth's courage failed. Strong love might have overcome this fear—the natural recoil of youth and life from coming into contact with death and mortality; but love was not exactly the bond between her and Mrs. Ascott. It was rather duty, pity, the tenderness that would have sprung up in her heart towards anybody she had watched and tended so long.

"If she should die, die in the night, before Miss Hilary comes!" thought the poor girl, and glanced once more round the shadowy room, where she was now left quite alone. For nurse, thinking with true worldly wisdom of the preservation of the "son and heir," which was decidedly the most important question now, had stolen away, and was busy in the next room, seeing various young women whom the doctors had sent, one of whom was to supply to the infant the place of the poor mother whom it would never know.

There was nobody left but herself to watch this dying mother, so Elizabeth took her lot upon her, smothered down her fears, and sat by the bedside, waiting for the least expression of returning reason in the sunken face, which was very quiet now.

Consciousness did return at last, as the doctors had said it would. Mrs. Ascott opened her eyes; they wandered from side to side, and then she said feebly,

"Elizabeth, where's my baby?"

What Elizabeth answered she never could remember; perhaps nothing, or her agitation betrayed her, for Mrs. Ascott said again,—

"Elizabeth, am I going to—to leave my baby?"

Some people might have considered it best to reply with a lie—the frightened, cowardly lie that is so often told at deathbeds to the soul passing direct to its God. But this girl could not and dared not.

Leaning over her mistress, she whispered, as softly as she could, choking down the tears that might have disturbed the peace which, mercifully, seemed to have come with dying:

"Yes, you are going very soon—to God. He will watch over baby, and give him back to you again some day, quite safe."

"Will he?"

The tone was submissive, half inquiring; like that of a child learning something it had never learned before—as Selina was now learning. Perhaps, even those three short weeks of motherhood had power so to raise her whole nature, that she had now gained the composure with which even the weakest soul can sometimes meet death, and had grown not unworthy of the dignity of a Christian's dying.

Suddenly she shivered. "I am afraid; I never thought of—this. Will nobody come and speak to me?"

Oh, how Elizabeth longed for Miss Hilary, for anybody, who would have known what to say to the dying woman; who perhaps, as her look and words implied, till this hour had never thought of dying. Once, it crossed the servant's mind to send for some clergyman; but she knew none, and was aware that Mrs. Ascott did not either. She had no superstitious feeling that any clergyman would do; just to give a sort of spiritual extreme unction to the departing soul. Her own religious faith was of such an intensely personal silent kind, that she did not believe in any good to be derived from a strange gentleman coming and praying by the bedside of a stranger, repeating set sayings with a set countenance, and going away again. And yet with that instinct which comes to almost every human soul, fast departing, Mrs. Ascott's white lips whispered, "Pray."

Elizabeth had no words, except those which Miss Leaf used to say night after night in the little parlor at Stowbury. She knelt down, and in a trembling voice repeated in her mistress' ear, "*Our Father which art in heaven,*" to the end.

After it Mrs. Ascott lay very quiet. At length she said, "Please—bring—my—baby." It had been from the first, and was to the last, "*my*" baby.

The small face was laid close to hers that she might kiss it.

"He looks well; he does not miss me much yet, poor little fellow!" And the strong natural agony came upon her, conquering even the weakness of her last hour. "Oh, it's hard, hard! Will nobody teach my baby to remember me?"

And then lifting herself up on her elbow, she caught hold of nurse.

"Tell Mr. Ascott that Elizabeth is to take care of baby. Promise, Elizabeth. Johanna is old—Hilary may be married—you will take care of my baby?"

"I will—as long as I live," said Elizabeth Hand.

She took the child in her arms, and for almost another hour stood beside the bed thus, until nurse whispered, "carry it away, its mother doesn't know it now."

But she did; for she feebly moved her fingers as if in search of something. Baby was still asleep, but Elizabeth contrived, by kneeling down close to the bed, to put the tiny hand under those cold fingers; they closed immediately upon it, and remained so till the last.

When Miss Leaf and Miss Hilary came in, Elizabeth was still kneeling there, trying softly to take the little hand away; for the baby had wakened, and began its piteous wail. But it did not disturb the mother now.

"Poor Selina" was no more. Nothing of her was left to her child except the name of a mother. It may have been better so.

CHAPTER XXV.

"IN MEMORY OF SELINA,

THE BELOVED WIFE OF PETER ASCOTT, ESQ.,
OF RUSSELL SQUARE, LONDON,
AND DAUGHTER OF

THE LATE HENRY LEAF, ESQ.,
OF THIS TOWN.

DIED DECEMBER 24, 1839,
AGED 41 YEARS."

SUCH was the inscription which now, for six months, had met the eyes of the inhabitants of Stowbury, on a large dazzlingly white marble monument, the first that was placed in the churchyard of the New Church.

What motive induced Mr. Ascott to inter his wife here; whether it was a natural wish to lay her, and some day lie beside her, in their native earth; or the less creditable desire of showing how rich he had become, and of joining his once humble name, even on a tombstone, with one of the oldest names in the annals of Stowbury—nobody could find out. Probably nobody cared.

The Misses Leaf were content that he should do as he pleased in the matter; he had shown strong but not exaggerated grief at his loss; if any remorse mingled therewith, Selina's sisters happily did not know it. Nobody ever did know the full history of

things except Elizabeth, and she kept it to herself. So the family skeleton was buried quietly in Mrs. Ascott's grave.

Peter Ascott showed, in his coarse fashion, much sympathy and consideration for his wife's sisters. He had them staying in the house till a week after the funeral was over, and provided them with the deepest and handsomest mourning. He even in a formal way, took counsel with them as to the carrying out of Mrs. Ascott's wishes, and the retaining of Elizabeth in charge of the son and heir, which was accordingly settled. And then they went back to their old life at Richmond, and the widower returned to his solitary bachelor ways. He looked as usual; went to and from the city as usual; and his brief married life seemed to have passed away from him like a dream.

Not altogether a dream. Gradually he began to wake up to the consciousness of an occasional child's cry in the house; that large, silent, dreary house, where he was once more the sole, solitary master. Sometimes, when he came in from church on Sundays, he would mount another flight of stairs, walk into the nursery at the top of the house, and stare with distant curiosity at the little creature in Elizabeth's arms, pronounce it a "fine child, and did her great credit," and walk down again. He never seemed to consider it as *his* child, this poor old bachelor of so many years' standing; he had outgrown apparently all sense of the affections or the duties of a father. Whether they ever would come into him; whether, after babyhood was passed, he would begin to take an interest in the little creature who throve and blossomed into beauty,—which as if watched by guardian angels, dead mothers' children seem often to do,—was a source of earnest speculation to Elizabeth.

In the mean time, he treated both her and the baby with extreme consideration, allowed her to do just as she liked, and gave her indefinite sums of money to expend upon the nursery.

When summer came and the doctor ordered change of air, Mr. Ascott consented to her suggestion of taking a lodging for herself and baby near baby's aunts at Richmond; only desiring that the lodging should be as handsome as could be secured, and that, every other Sunday, she should bring up his son to spend the day at Russell Square.

And so, during the long summer months, the motherless child, in its deep mourning—which looks so pathetic on a very young baby—might be seen carried about in Elizabeth's arms everywhere. When, after the first six weeks, the wet-nurse left—in fact, two or three wet-nurses successively were abolished—she took little Henry solely under her own charge. She had comparatively small experience, but she had common sense, and the strong motherly instinct which comes by nature to some women. Besides, her whole soul was wrapped up in this little child.

From the hour when, even with her mistress dying before her eyes, Elizabeth had felt a strange thrill of comfort in the new duty which had come into her blank life, she took to this duty as women only can whose life *has* become a blank. She received the child as a blessing sent direct from God; by unconscious hands—for Mrs. Ascott knew nothing of what had happened; something that would heal her wounded heart, and make her forget Tom.

And so it did. Women and mothers well know how engrossing is the care of an infant; how each minute of the day is filled up with something to be done or thought of: so that “fretting” about extraneous things becomes quite impossible. How gradually the fresh life growing up and expanding puts the worn-out or blighted life into the background, and all the hopes and fancies cling around the small, beautiful present, the ever-developing, ever-marvellous mystery of a young child's existence! Why it should be so, we can only guess; but that it is so, many a wretched wife, many a widowed mother, many a broken-hearted, forlorn aunt, has thankfully proved.

Elizabeth proved it likewise. She did not exactly lose all memory of her trouble, but it seemed lighter: it was swallowed up in this second passion of adopted motherhood. And so she sank, quietly and at once, into the condition of a middle-aged woman, whose life's story—and her sort of women have but one—was a mere episode, told and ended.

For Esther had left, and been married to Tom Cliffe, within a few weeks of Mrs. Ascott's funeral. Of course, the household knew everything; but nobody condoled with Elizabeth. There was a certain stand-offishness about her which made them hold

their tongues. They treated her with much respect, as her new position demanded. She took this, as she took everything, with the grave quietness which was her fashion from her youth up; assumed her place as a confidential upper servant; dressed well, but soberly, like a woman of forty, and was called “Mrs.” Hand.

The only trace her “disappointment” left upon her was a slightly bitter way of speaking about men in general, and a dislike to any chatter about love affairs and matrimony. Her own story she was never known to refer to, in the most distant way, except once.

Miss Hilary—who, of course, had heard all, but delicately kept silence—one night, when little Henry was not well, remained in the lodgings on Richmond Hill, and slept in the nursery, Elizabeth making up for herself a bed on the floor close beside baby and cradle. In the dead of night the two women, mistress and maid, by some chance, said a few things to one another which never might have been said in the daylight, and which, by tacit consent, were never afterwards referred to by either, any more than if they had been spoken in a dream.

Elizabeth told briefly, though not without emotion, all that had happened between herself and Tom; and how he was married to Esther Martin. And then both women went back, in a moralizing way, to the days when they had both been “young” at Stowbury; and how different life was from what they then thought and looked forward to,—Miss Hilary and her “bower-maiden.”

“Yes!” answered the former with a sigh, “things are indeed not as people fancy when they are girls. We dream and dream, and think we see very far into the future, which nobody sees but God. I often wonder how my life will end.”

Elizabeth said, after a pause, “I always felt sure you would be married, Miss Hilary. There was one person—Is he alive still? Is he ever coming home?”

“I don't know.”

“I am sure he was very fond of you. And he looked like a good man.”

“He was the best man I ever knew.”

This was all Miss Hilary said, and she said it softly and mournfully. She might never have said it at all; but it dropped from her unawares in the deep feeling of the mo-

ment, when her heart was tender over Elizabeth's own sad, simply told story. Also, because of a sudden and great darkness which had come over her own.

Literally, she did not now know whether Robert Lyon were alive or dead. Two months ago his letters had suddenly ceased, without any explanation: his last being exactly the same as the others—as frank, as warmly affectionate, as cheerful and brave.

One solution to this was his possible coming home. But she did not, after a careful reasoning on the subject, believe that likely. She knew exactly his business relations with his employers; that there was a fixed time for his return to England, which nothing except the very strongest necessity could alter. Even in the chance of his health breaking, so as to incapacitate him for work, he should, he always said, have to go to the hills, rather than take the voyage home prematurely. And in that case, he certainly would have informed his friends of his movements. There was nothing erratic, or careless, or eccentric about Robert Lyon; he was a practical, business-like Scotchman,—far too cautious and too regular in all his habits to be guilty of those accidental negligences by which wanderers abroad sometimes cause such cruel anxiety to friends at home.

For the same reason, the other terrible possibility—his death—was not likely to have happened without their hearing of it. Hilary felt sure, with the strong confidence of love, that he would have taken every means to leave her some last word—some farewell token—which would reach her after he was gone, and comfort her with the assurance of what, living, he had never plainly told. Sometimes, when a wild terror of his death seized her, this settled conviction drove it back again. He must be living, or she would have heard.

There was another interpretation of the silence, which many would have considered the most probable of all—he might be married. Not deliberately, but suddenly; drawn into it by some of those impelling trains of circumstance which are the cause of so many marriages—especially with men; or, impelled by one of those violent passions which occasionally seize on an exceedingly good man, fascinating him against his conscience, reason, and will, until he wakes up to find himself fettered and ruined for life. Such

things do happen—strangely, pitifully often. The like might have happened to Robert Lyon.

Hilary did not actually believe it; but still her common sense told her that it was possible. She was not an inexperienced girl now; she looked on the world with the eyes of a woman of thirty; and though, thank Heaven! the romance had never gone out of her—the faith and trust and tender love—still it had sobered down a little. She knew it was quite within the bounds of possibility that a young man, separated from her for seven years, thrown into all kinds of circumstances and among all sorts of people, should have changed very much in himself, and, consequently, towards her. That, without absolute faithlessness, he might suddenly have seen some other woman he liked better, and have married at once. Or, if he came back unmarried—she had taught herself to look this probability also steadily in the face—he might find the reality of her—Hilary Leaf—different from his remembrance of her; and so, without actual falsehood to the old true love, might not love her any more.

These fears made her resolutely oppose Johanna's wish to write to the house of business at Liverpool, and ask what had become of Mr. Lyon. It seemed like seeking after him,—trying to hold him by the slender chain which he had never attempted to make any stronger, and which, already, he might have broken, or desired to break.

She could not do it. Something forbade her; that something in the inmost depths of a woman's nature which makes her feel her own value, and exact that she shall be sought; that, if her love be worth having, it is worth seeking; that, however dear a man may be to her, she refuses to drop into his mouth like an overripe peach from a garden wall. In her sharpest agony of anxiety concerning him, Hilary felt that she could not, on her part, take any step that seemed to compel love—or even friendship—from Robert Lyon. It was not pride,—she could hardly be called a proud woman; it was an innate sense of the dignity of that love which, as a free gift, is precious as “much fine gold,” yet becomes the merest dross—utterly and insultingly poor—when paid as a debt of honor, or offered as a benevolent largesse.

And so, though oftentimes her heart felt

breaking, Hilary labored on; sat the long day patiently at her desk; interested herself in the young people over whom she ruled; became Miss Balquidder's right hand in all sorts of schemes which that good woman was forever carrying out for the benefit of her fellow-creatures; and at leisure times occupied herself with Johanna, or with Elizabeth and the baby,—trying to think it was a very beautiful and happy world, with love still in it, and a God of love ruling over it,—only,—only—

Women are very humble in their cruellest pride. Many a day she felt as if she could have crawled a hundred miles in the dust—like some Catholic pilgrim—just to get one sight of Robert Lyon.

Autumn came—lovely and lingering late. It was November, and yet the air felt mild as May, and the sunshine had that peculiar genial brightness which autumnal sunshine alone possesses; even as, perhaps, late happiness has in it a holy calm and sweetness which no youthful ecstasy can ever boast.

The day happened to be Hilary's birthday. She had taken a holiday, which she, Johanna, Elizabeth, and the baby, had spent in Richmond Park, watching the rabbits darting about under the brown fern, and the deer grazing contentedly hard by. They had sat a long time under one of the oak-trees with which the park abounds, listening for the sudden drop, drop, of an occasional acorn among the fallen leaves; or making merry with the child, as a healthy, innocent, playful child always can make good women merry.

Still, Master Henry was not a remarkable specimen of infancy, and had never occupied more than his proper nepotal corner in Hilary's heart. She left him chiefly to Elizabeth, and to his Aunt Johanna, in whom the grandmotherly character had blossomed out in full perfection. And when these two became engrossed in his infant majesty, Hilary sat a little apart, unconsciously folding her hands and fixing her eyes on vacancy; becoming fearfully alive to the sharp truth, that of all griefs a strong love unreturned or unfulfilled is the grief which most blights a woman's life. Say, rather, any human life: but it is worst to a woman, because she must necessarily endure passively. So enduring; it is very difficult to recognize the good hand of God therein. Why should he ordain longings, neither selfish nor unholy, which yet

are never granted; tenderness which expends itself in vain; sacrifices which are wholly unneeded; and sufferings which seem quite thrown away? That is, if we dared allege of anything in the moral or in the material world where so much loveliness, so much love, appear continually wasted, that it is really "thrown away." We never know through what divine mysteries of compensation the Great Father of the universe may be carrying out his sublime plan; and those three words, "God is love," ought to contain, to every doubting soul, the solution of all things.

As Hilary rose from under the tree, there was a shadow on her sweet face, a listless weariness in her movements, which caught Johanna's attention. Johanna had been very good to her child. When, do what she would, Hilary could not keep down fits of occasional dullness or impatience, it was touching to see how this woman of over sixty years slipped from her due pedestal of honor and dignity, to be patient with her younger sister's unspoken bitterness and incommunicable care.

She now, seeing how restless Hilary was, rose when she rose, put her arm in hers, and accompanied her, speaking or silent, with quick steps or slow, as she chose, across the beautiful park, than which, perhaps, all England cannot furnish a scene more thoroughly sylvan, thoroughly English. They rested on that high ground near the gate of Pembroke Lodge, where the valley of the Thames lies spread out like a map, stretching miles and miles away in luxuriant greenery.

"How beautiful! I wonder what a foreigner would think of this view? Or any one who had been long abroad? How inexpressibly sweet and homelike it would seem to him!"

Hilary turned sharply away, and Johanna saw at once what her words had implied. She felt so sorry, so vexed with herself; but it was best to leave it alone. So they made their way homeward, speaking of something else; and then that happened which Johanna had been almost daily expecting would happen, though she dared not communicate her hopes to Hilary, lest they should prove fallacious.

The two figures, both in deep mourning, might have attracted any one's attention; they caught that of a gentleman, who was walking quickly and looking about him, as

if in search of something. He passed them at a little distance, then repassed, then turned, holding out both his hands.

"Miss Leaf; I was sure it was you."

Only the voice; everything else about him was so changed that Hilary herself would certainly have passed him in the street, that brown, foreign-looking, middle-aged man, nor recognized him as Robert Lyon. But for all that it was himself; it was Robert Lyon.

Nobody screamed, nobody fainted. People seldom do that in real life, even when a friend turns up suddenly from the other end of the world. They only hold out a warm hand, and look silently in one another's faces, and try to believe that all is real, as these did.

Robert Lyon shook hands with both ladies, one after the other, Hilary last, then placed himself between them.

"Miss Leaf, will you take my arm?"

The tone, the manner, were so exactly like himself, that in a moment all these intervening years seemed crushed into an atom of time. Hilary felt certain, morally and absolutely certain, that, in spite of all outward change, he was the same Robert Lyon who had bade them all good-by that Sunday night in the parlor at Stowbury. The same, even in his love for herself, though he had simply drawn her little hand under his arm, and never spoken a single word.

Hilary Leaf, down, secretly, on your heart's lowest knees, and thank God! Repent of all your bitternesses, doubts, and pains; be joyful, be joyful! But, oh, remember to be so humble withal.

She was. As she walked silently along by Robert Lyon's side, she pulled down her veil to hide the sweetest, most contrite, most childlike tears. What did she deserve, more than her neighbors, that she should be so very, very happy? And when, a good distance across the park, she saw the dark, solitary figure of Elizabeth carrying baby, she quietly guided her companions into a different path, so as to avoid meeting, lest the sight of her happiness might in any way hurt poor Elizabeth.

"I only landed last night at Southampton," Mr. Lyon explained to Miss Leaf, after the fashion people have, at such meetings, of falling upon the most practical and uninteresting details. "I came by the Overland

Mail. It was a sudden journey. I had scarcely more than a few hours' notice. The cause of it was some very unpleasant defalcations in our firm."

Under any other circumstances, Hilary might have smiled; maybe she did smile, and tease him many a time afterwards, because the first thing he could find to talk about, after seven years' absence, was "defalcations in our firm." But now she listened gravely, and by and by took her part in the unimportant conversation which always occurs after a meeting such as this.

"Were you going home, Miss Leaf? They told me at your house you were expected to dinner. May I come with you? for I have only a few hours to stay. To-night I must go on to Liverpool."

"But we shall be sure soon to see you again?"

"I hope so. And I trust, Miss Leaf, that I do not intrude to-day?"

He said this with his Scotch shyness, or pride, or whatever it was; so like his old self, that it made somebody smile! But somebody loved it. Somebody lifted up to his face eyes of silent welcome; sweet, soft, brown eyes, where never, since he knew them, had he seen one cloud of anger darken, one shadow of unkindness rise.

"This is something to come home to," he said in a low voice, and not over lucidly. Ay, it was.

"I am by no means disinterested in the matter of dinner, Miss Leaf; for I have no doubt of finding good English roast beef and plum-pudding on your sister's birthday. Happy returns of the day, Miss Hilary!"

She was so touched by his remembering this, that, to hide it, she put on a spice of her old mischievousness, and asked him if he was aware how old she was?

"Yes: you are thirty; I have known you for fifteen years."

"It is a long time," said Johanna, thoughtfully.

Johanna would not have been human had she not been a little thoughtful and silent on the way home, and had she not many times, out of the corners of her eyes, sharply investigated Mr. Robert Lyon!

He was much altered; there was no doubt of that. Seven years of Indian life would change anybody; take the youthfulness out of anybody. It was so with Robert Lyon.

When coming into the parlor, he removed his hat, many a white thread was visible in his hair, and besides the spare, dried-up look which is always noticeable in people who have lived long in hot climates, there was an "old" expression in his face, indicating many a worldly battle fought and won, but not without leaving scars behind.

Even Hilary, as she sat opposite to him at table, could not but feel that he was no longer a young man, either in appearance or reality.

We ourselves grow old, or older, without knowing it, but when we suddenly come upon the same fact in another, it startles us. Hilary had scarcely recognized how far she herself had left her girlish days behind, till she saw Robert Lyon.

"You think me very much changed?" said he, guessing, by his curiously swift intuition of old, what she was thinking of.

"Yes, a good deal changed," she answered truthfully; at which he was silent.

He could not read—perhaps no man's heart could—all the emotion that swelled in hers as she looked at him, the love of her youth, no longer young. How the ghostly likeness of the former face gleamed out under the hard, worn lines of the face that now was touching her with ineffable tenderness. Also, with solemn content came a sense of the entire indestructibility of that love which through all decay or alteration traces the ideal image still, clings to it, and cherishes it with a tenacity that laughs to scorn the grim dread of "growing old."

In his premature, and not specially comely middle age, in his gray hairs, in the painful, anxious, half-melancholy expression which occasionally flitted across his features, as if life had gone hard with him, Robert Lyon was a thousand times dearer to her than when the world was all before them both, in the early days at Stowbury.

There is a great deal of sentimental nonsense talked about people having been "young together." Not necessarily is that a bond. Many a tie formed in youth dwindles away and breaks off naturally in maturer years. Characters alter, circumstances divide. No one will dare to allege that there may not be loves and friendships formed in middle life as dear, as close, as firm as any of those of youth; perhaps, with some tem-

peraments, infinitely more so. But when the two go together, when the calm election of maturity confirms the early instinct, and the lives have run parallel, as it were, for many years, there can be no bond like that of those who say, as these two did, "We were young together."

He said so when, after dinner, he came and stood by the window where Hilary was sitting sewing. Johanna had just gone out of the room; whether intentionally or not this history cannot avouch. Let us give her the benefit of the doubt; she was a generous woman.

During the three hours that Mr. Lyon had been with her, Hilary's first agitation had subsided. That exceeding sense of rest which she had always felt beside him—the sure index of people who, besides loving, are meant to guide and help and bless one another—returned as strong as ever. That deep affection, which should underlie all love, revived and clung to him with a child-like confidence, strengthening at every word he said, every familiar look and way.

He was by no means so composed as she was, especially now when, coming up to her side and watching her hands moving for a minute or so, he asked her to tell him, a little more explicitly, of what had happened to her since they parted.

"Things are rather different from what I thought;" and he glanced with a troubled air round the neat but very humbly furnished parlor. "And about the shop?"

"Johanna told you."

"Yes; but her letters have been so few, so short—not that I could expect more. Still—now, if you will trust me—tell me all."

Hilary turned to him, her friend for fifteen years. He was that, if he was nothing more. And he had been very true; he deserved to be trusted. She told him, in brief, the history of the last year or two, and then added,—

"But after all, it is hardly worth the telling, because, you see, we are very comfortable now. Poor Ascott, we suppose, must be in Australia. I earn enough to keep Johanna and myself, and Miss Balquidder is a good friend to us. We have repaid her, and owe nobody anything. Still, we have suffered a great deal. Two years ago; oh! it was a dreadful time."

She was hardly aware of it, but her candid tell-tale face betrayed more even than her words. It cut Robert Lyon to the heart.

"You suffered, and I never knew it."

"I never meant you to know."

"Why not?" He walked the room in great excitement. "I ought to have been told; it was cruel not to tell me. Suppose you had sunk under it; suppose you had died, or been driven to do what many a woman does for the sake of mere bread and a home—what your poor sister did—married. But I beg your pardon."

For Hilary had started up with her face all aglow.

"No," she cried; "no poverty would have sunk me so low as that. I might have starved, but I should never have married."

Robert Lyon looked at her, evidently uncomprehending, then said humbly, though rather formally,—

"I beg your pardon once more. I had no right to allude to anything of the kind."

Hilary replied not. It seemed as if now, close together, they were farther apart than when the Indian seas rolled between them.

Mr. Lyon's brown cheek turned paler and paler; he pressed his lips hard together; they moved once or twice, but still he did not utter a word. At last, with a sort of desperate courage, and in a tone that Hilary had never heard from him in her life before, he said,—

"Yes, I believe I have a right, the right that every man has when his whole happiness depends upon it, to ask you one question. You know everything concerning me; you always have known; I meant that you should—I have taken the utmost care that you should. There is not a bit of my life that has not been as open to you as if—as if— But I know nothing whatever concerning you."

"What do you wish to know?" she faltered.

"Seven years is a long time. Are you free? I mean, are you engaged to be married?"

"No."

"Thank God!"

He dropped his head down between his hands, and did not speak for a long time.

And then, with difficulty, for it was always hard to him to speak out, he told her, at least he somehow made her understand, how he had loved her. No light fancy of sentimental youth, captivated by every fresh face it sees, putting upon each one the coloring of its own imagination, and adorning not what is, but what itself creates: no sudden, selfish, sensuous passion, caring only to attain its object, irrespective of reason, right, or conscience; but the strong deep love of a just man, deliberately choosing one woman as the best woman out of all the world, and setting himself resolutely to win her. Battling for her sake with all hard fortune: keeping, for her sake, his heart pure from all the temptations of the world: never losing sight of her: watching over her so far as he could, consistently with the sense of honor (or masculine pride, which was it? but Hilary forgave it anyhow) which made him resolutely compel himself to silence: holding her perfectly free, while he held himself bound. Bound, by a faithfulness perfect as that of the knights of old, asking nothing, and yet giving all.

Such was his love; this brave, plain-spoken, single-hearted Scotsman. Would that there were more such men, and more such love in the world!

Few women could have resisted it, certainly not Hilary, especially with a little secret of her own lying perdu at the bottom of her heart; that "sleeping angel" whence half her strength and courage had come; the noble, faithful, generous love of a good woman for a good man. But this secret Robert Lyon had evidently never guessed, or deemed himself wholly unworthy of such a possession.

He took her hand at last, and held it firmly.

"And now that you know all, do you think in time—I'll not hurry you—but in time, do you think I could make you love me?"

She looked up in his face with her honest eyes. Smiling as they were, there was pathos in them; the sadness left by those long years of hidden suffering, now forever ended.

"I have loved you all my life," said Hilary.

From The Spectator.

LONDON LYRICS.*

THIS little volume, though it bears no trace of a second edition on the title-page, has, we believe, been published before; and if we mistake not, Mr. Thackeray has given us at least one of its poems in the pages of the *Cornhill Magazine*. It does not in any way assume to be poetry of a high order, but it would be unfortunate if we had only poetry of the higher orders. The world of art should surely strive to be as universal as that of nature; and, if it be not only true that,—

"The towering headlands, crowned with mist,
Their feet among the billows, know
That Ocean is a mighty harmonist;"

but also that,

"Birds and brooks, from leafy dells,
Chime forth unwearied canticles,"

there is no good reason why, in human poetry, the voice of song should be limited to those who can command the depth and range of the organ, or the liquid melody of the flute, if there be also a gayety and a ripple of sweetness in the thin notes of the flageolet. And Mr. Locker's verses have a pretty gayety, or mild pathos of their own, which is of the true nature of song; though rather of the kind which, in the strict etymological sense, may be called amusing—i.e., diverting us *from* the Muses—than of that which plunges us into the depths of imaginative insight. And the title chosen by Mr. Locker warns us what to look for. We will not say that the great life of London could not inspire poetry—dramatic, satiric, epic even—but lyric poetry of the deeper kind assuredly not. In lyrical poetry, properly so called, the mind must be wholly absorbed and occupied by some musical and solitary emotion. London is socially distracting, active, and buoyant. On the surface of its potent and massive life you are borne up and tossed about like the swimmer on the waves. You might far more easily write a true lyric with breakers dashing in your face, and your body heaving up and down with every wave, than with the tide of London society heaving beneath your imagination, and the small excitements of social intercourse and impacts ruffling the surface of your fancy. But Mr. Locker does not apply "lyric" in this strict sense.

* *London Lyrics*. By Frederick Locker. Basil Montagu. 1862.

What he gives us is just that playful or pathetic ripple on the surface of the mind which a man has time to note as he walks calmly down Piccadilly, or sits in the suspended social animation of a solitary drawing-room, waiting for the hostess of a morning call. And this gentle vibration of fun or feeling, which society stimulates, but the flying lights and shadows of which few are both able and willing to catch, is very nicely reflected in Mr. Locker's verses. The playfulness—where it does not degenerate into puns, as it too often does—is a genuine lambent light closely bound up with a certain tenderness of feeling; and there is an ease of expression which everywhere reflects the self-possession of London society. As good a specimen as we can give of the nature of the poems is the affectionate, half-respectful, half-irreverent *chaff* of "Grand-mamma" which is contained in the following verses:—

TO MY GRANDMOTHER.

(Suggested by a Picture by Mr. Romney.)

This relative of mine

Was she seventy and nine

When she died?

By the canvas may be seen

How she looked at seventeen,—

As a bride.

Beneath a summer tree

As she sits, her reverie

Has a charm;

Her ringlets are in taste,—

What an arm! and what a waist

For an arm!

In bridal coronet,

Lace, ribbons, and *coquette*

Falbalas;

Were Romney's limning true,

What a lucky dog were you,

Grandpapa!

Her lips are sweet as love,—

They are parting! Do they move?

Are they dumb?—

Her eyes are blue, and beam

Beseechingly, and seem

To say, "Come."

What funny fancy slips

From between these cherry lips?

Whisper me,

Sweet deity, in paint,

What canon says I mayn't

Marry thee?

That good-for-nothing Time

Has a confidence sublime!

When I first

Saw this lady, in my youth,

Her winters had, forsooth,

Done their worst.

Her locks (as white as snow)
For his wing once shamed the crow
By their dye,—
That fowl of cloven tread
Had set his foot, instead,
In her eye.

Her rounded form was lean,
And her silk was bombazine;—
Well I wot,
With her needles would she sit,
And for hours would she knit,—
Would she not?

Ah, perishable clay!
Her charms had dropt away
One by one.
But if she heaved a sigh
With a burthen, it was, "Thy
Will be done!"

In travail, as in tears,
With the fardel of her years
Overprest,—
In mercy was she borne
Where the weary ones and worn
Are at rest.

I'm fain to meet you there,—
If as witching as you were,
Grandmamma!
This nether world agrees
That the better it must please
Grandpapa.

There is a nice little trot about these verses which almost seems to beat time to a kind old lady's step, as she ambles about a house, bent on making everybody happy, and the thoughtfulness for grandpapa in the last verse completely atones for the half-disposition shown to break, in thought, the canon against marrying within the forbidden degrees, which peeps out in a previous verse.

We have only two serious remonstrances to make with Mr. Locker. One is against the punning which, though, we suppose, it is an exercise of the human understanding, is certainly incongruous with verse of any kind not intended for a comic journal. The following, for example, should have been sent to *Fun* :—

"As year succeeds to year, the more
Imperfect life's fruition seems,
Our dreams, as baseless as of yore,
Are not the captivating dreams
Of knight and lady, Puck and Pan,
Of sirens weird, or outlaws witty,—
No sirens now in ditty ban,
All's changed, alas! we've no banditti!"

or this, in another poem :—

"Such talk is stuff—a vile caprice
Of rogues who swear our swans are geese:
But reason it or rhyme it,

To hacks who 'tread the mill' like me,
These slopes of Bramble-Rise should be
A healthy change of climb it."

This is questionable in a poet. Mere punning is only a sort of intellectual infidelity to the meaning of words which, unless the thoughts contained have some analogous and humorous subterranean kind of connection, is an exercise of mind of which the lower animals are incapable, only because they have a more trustworthy intelligence. A dog may pun unconsciously, and therefore innocently, by confusing different things which have the same name; but of conscious confusion it is never guilty.

Also Mr. Locker is obscure in his points. We have some acquaintance with printers' devils, and have studied the following with much care and anxiety; it closes the volume, and is evidently addressed to the devil who took the last corrected proof—namely of this very poem—to the printer's :—

"Small imp of blackness, off at once,
Expend thy mirth as likes thee best;
Thy toil is over for the nonce,
Yes, *opus operatum est*.

"When dreary authors vex thee sore—
Thy Mentor's old, and would remind thee,
That if thy griefs are all before,
Thy pleasures are not all behind thee."

Are these last two lines accompanied with a kick? And if not, what is the drift of the obscure antithesis indicated?

On the whole, however, we may say that there is both pathos and humor, of a gentle, rippling kind in this little volume; the general effect of which may be summed up in two verses, which, but for the verbal play on "merry thought" and "funny-bone," might have been taken from one of Mr. Thackeray's own ballads, so completely and easily do they express his philosophy :—

"Ah, vain regret! to few, perchance,
Unknown—and profitless to all,
The wisely-gay, as years advance,
Are gayly-wise. 'Whate'er befall
We'll laugh—at folly; whether seen
Beneath a chimney or a steeple,
At yours, at mine—our own, I mean,
As well as that of other people.

"They cannot be complete in aught
Who are not humorously prone;
A man without a merry thought
Can hardly have a funny-bone.
To say I hate your gloomy men
Might be esteemed a strong assertion;
If I've blue devils, now and then,
I make them dance for my diversion."

From The Examiner.

Calendar of Letters, Despatches, and State Papers relating to the Negotiations between England and Spain, preserved in the Archives of Simancas and elsewhere. Volume I. Henry VII, 1485-1509. Edited by G. A. Bergenroth. Published by the Authority of the Lords Commissioners of Her Majesty's Treasury, under the Direction of the Master of the Rolls. London: Longmans.

HERE is a new feature in the publications issued under the direction of the Master of the Rolls. Till now we have had "Calendars" of our own State Papers only; but the principal substance of the present volume is derived from the State Papers of Spain. Its appearance may be looked upon as an acknowledgment on the part of our Government that important sources of English history are to be found in foreign countries, which require to be made known and consultable, like those in the Public Record Office, by catalogues, with careful summaries of their contents. That the treasury has come to view the matter in this light is a fact for which we cannot feel too grateful; for certainly there is not one of the Government publications better deserving than the present of the countenance under which it has appeared.

We understand that it was entirely on his own account that Mr. Bergenroth first went to Spain to study in the Archives of Simancas. Having spent much time in England, where he devoted his attention to historical pursuits, and more especially to the period of Henry VII., it occurred to him that, owing to the very close and intimate relation then existing between the two countries, the Archives of Spain would probably be found a fruitful source of information. He determined to see what could be got out of the records of Simancas. He accordingly went and took up his quarters in that uncomfortable little village, of which he gives us the following account:—

"The country is barren and treeless. For nine months out of the twelve it is destitute of verdure, and the climate, in consequence of the great elevation of the land, is very trying. The sun is as burning as in Africa, and the winds are as cold as on the plains of Northern Asia. No hotel, even of the most moderate description, in which a traveller could find accommodation, is to be found in the place. The student who wishes

to consult the Archives is obliged to live in the house of some poor peasant; for the pride of the few wealthy persons among the villagers would not permit them to receive lodgers. Excellent and, in many respects, comparatively refined as are the peasants of Old Castile, it is very difficult to be satisfied with the scanty accommodation which it is in their power to offer. The rooms in their houses are very small, the windows, doors, and roof are of such inferior workmanship, that bitter blasts, glaring sunlight, and pelting rain easily find admittance. The occupant of such a dwelling suffers by turns from cold, heat, and wet. The food is worse than the lodgings. No social intercourse, no books, not even the commonest works of reference, are to be had."

Here, in an old tower with a northern aspect, where no fires were allowed and the ink froze in his pen in winter, Mr. Bergenroth pursued his labor of love, deciphering the documents that related to England; and very soon he found them so important that attention was called to his researches through both public and private channels, and he at length received a commission from Government to compile the present Calendar. He had, however, greater difficulties to contend with than the climate of the room. The Spanish MSS. seemed almost hopelessly undecipherable. The works on Spanish palæography that he had studied before he left England were of little or no avail. "The specimens given by Rodriguez," says Mr. Bergenroth, "contain all the principal features characteristic of the Spanish writing of that period. But they are neat and clean engravings, whilst the papers with which I had to do were the rough drafts of Ferdinand Alvarez, Secretary of State to Ferdinand and Isabella. They are incoherent and confused, portions are blotted out, and marginal additions are written in such small characters as scarcely to be discernible. In fact, the writing is more difficult than any which I subsequently met with. I passed whole days at first over a few lines." A little later in the reign, when Almazan replaced Alvarez as Secretary of State, though the ordinary handwriting is more intelligible, a great number of the despatches are in cipher, to which Mr. Bergenroth had laboriously to form his own keys. There were twenty different kinds of cipher, and though one or two might be regarded as variations of the others, most of them were extremely com-

plicated. So complicated, indeed, had the different ciphers become in about fifteen years after the art was first introduced into Spain, that they were found to be intolerable even by the Spanish ministers themselves. Nevertheless all difficulties gave way before Mr. Bergenroth's indomitable perseverance, and in the end he was able to read every despatch except one short letter, which was in a different cipher from all the rest.

Even then, however, his troubles were not at an end:—

"When I had nearly completed all my keys, doubts arose in the Archives whether I could be permitted to copy the ciphered documents. As I was the only man living who was able to interpret them, the control to be exercised by the Archivero was impossible. The ciphered despatches were actually taken from me, and all my labor seemed destined to be fruitless. I went to Madrid. The result of my appeals to the ministry showed that the whole affair had simply been due to a misunderstanding. The Spanish Government, treating me with the greatest liberality, imposed only one condition, namely, that I should leave copies of all my decipherings and keys in the Archives, to which I gladly consented. When I returned to Simancas the ciphered documents were not only restored to me, but another search for keys to the ciphers was made, and resulted in the discovery of one complete key and the fragments of two others. The complete key was the one which had been the most used in the extensive correspondence of Doctor De Puebla with the Spanish Government. It contains two thousand four hundred signs. Had it been found some months earlier, when I first asked for it, it would have saved me immense labor, injurious to my health. As it was, it only served to confirm me in the conviction I had entertained that my discoveries were real, and to fill up some blanks occasioned by the circumstance that certain signs had never been made use of in the correspondence."

The new light obtained by these researches on a very dark period of our history is of the most important nature. Not that it clears away doubts or corrects many errors in the received view of Henry VII.; but it is the only real source of information we possess respecting that monarch's actions and policy. The few contemporary writers are miserably unsatisfactory. Lord Bacon wrote the life of Henry VII.; his work is

rather a sketch than a history, but modern research has done little to fill up the outline of what he was obliged to leave imperfect. Clogged as it is with countless inaccuracies, his book is still quoted as an authority, and the popular conception of the first of the Tudors is undoubtedly derived from the portrait of him drawn by Bacon. Anything like a history of the period we have not seen as yet.

Here at least are some of the materials for it, exhibiting England, it is true, rather exclusively from one point of view, but wonderfully complete and interesting, as far as they go. The scanty original documents belonging to the period in our country, which lay dispersed and unknown in different libraries, were partly brought to light the other day, and published in the Government series of Chronicles; but, important as these are, they supply no continuous information relative to the wants of the reign. In Spain even the oldest State papers appear never to have been disturbed; each *legajo* or bundle of documents contains still the very letters and instructions that were placed in it three centuries ago; the order in which they are preserved is perfect. And Mr. Bergenroth has not only exhausted the *Tratados con Inglaterra* in Simancas and Barcelona, the old Archives of the kingdoms of Castile and Aragon, but whatever he could find in Paris or London, in the Public Record Office, British Museum or Bibliothèque Impériale, or in printed documents from the Archives of Vienna, which could illustrate the relations between Spain and England in the reign of Henry VII., he has carefully catalogued under its proper date. Now, therefore, we may feel tolerably confident that we have in Mr. Bergenroth's Calendar all the information ever likely to be found upon this subject.

Who would have expected that the very first of the documents in the volume derived from a foreign repository would have been a complaint of Ferdinand and Isabella against Columbus, then in the French service, whom they charge with piracy? It seems he had captured four Venetian vessels freighted by Spanish subjects, and carried off the booty to an English port. On the 5th of November, 1485, Ferdinand and Isabella wrote to the King of England, not knowing as yet who that person might be (for it was but two

months and a half after the battle of Bosworth, and they had not heard whether Richmond's expedition had been successful), desiring that the adventurer might be arrested. This letter, or a duplicate of it, is preserved at Barcelona, and a blank is left for the King of England's name.

The diplomatic documents, however, commence in the year 1488, when the first negotiations were set on foot for the marriage between the son of Henry and the daughter of the Spanish sovereigns. While the children themselves were yet in their cradles their wise parents saw how to make them the means of a firm alliance between Spain and England. A very full report is given of the conferences on this subject between the ambassadors of Ferdinand and Isabella and the English king and his ministers. Considering the insecurity of Henry's throne, one might have supposed the advantage of such a union would be chiefly on his side; the greatness of the alliance for one so situated seems even to have been admitted by Henry himself. "The king, according to his usual manner, took his bonnet off his head, and said the most flattering things of the masters (Ferdinand and Isabella), every time he pronounced their names taking the measure of his bonnet." Nevertheless the English commissioners long stood out for a much larger marriage portion than Spain was inclined to give. The Spanish ambassadors remonstrated against their demands. "Bearing in mind," they said, "what happens every day to the kings of England, it is surprising that Ferdinand and Isabella should dare to give their daughter at all." But they add, "This was said with great courtesy, in order that they might not feel displeasure." The English urged that Ferdinand and Isabella might be more liberal, as the money would not come from them, but out of the pockets of their subjects; the English aristocracy were wealthy, and as for the crown itself, there was not "a drop of blood" in existence that could endanger Henry's title.

The notices of Perkin Warbeck are both numerous and curious, but they leave him as mysterious a character as ever. Mr. Bergenroth doubts whether Henry himself knew, or even cared to know, who he was. There is no doubt that everywhere abroad he was spoken of as the true son of Edward IV.

"Perkin," says Mr. Bergenroth, "was believed by all the princes of his time to be the real Duke of York. Of this we have the certainly unexceptionable evidence of Henry VII. himself. On the occasion when he saw Perkin Warbeck in the presence of the Bishop of Cambray and De Puebla, he said to both ambassadors, in order to prove the great perversity of Perkin, that he had succeeded in persuading the Pope, the King of the Romans, the King of France, and, in fact, all the princes of Christendom, with the exception of Ferdinand and Isabella, that he was the son of King Edward. He thus confirmed the assertion of Perkin in his letter to Queen Isabella that the King of the Romans, the Archduke Philip, the Duke of Saxony, and the Kings of Denmark and Scotland had honored him with embassies and treated him as their equal. Even the single exception which Henry made with regard to Ferdinand and Isabella will not bear investigation. For, if documents which are destined to remain in the hands of the most confidential servants, and which have no political object in view, deserve greater reliance than declarations of ambassadors made for certain purposes, Ferdinand and Isabella also considered Perkin Warbeck to be the Duke of York. The document to which I refer is the original of a key to the cipher in Latin numbers, used by De Puebla and preserved at Simancas. One chapter of it is headed 'The Pope, the Emperor, Kings, and other persons of the Blood Royal.' There is even the direction added, that persons who do not belong to royal families must be looked for in other places. Perkin Warbeck, not under this name, but under that of the Duke of York, is to be found in the chapter of royal personages; his cipher is DCCCCVII, and his neighbors on either side are the Duchess Margaret and King Alfonso of Naples. Even to those who firmly believe that Perkin Warbeck was an impostor, it must at least be clear that he was treated by the continental princes just as the real Duke of York would have been treated."

It might, perhaps, be doubted whether Henry himself esteemed this "idol" as formidable to his throne as abroad he was believed to be. It is very remarkable, however, not only in reference to Warbeck's importance, but also as showing the deference Henry paid to the counsels of Spain, that when the king at length got Warbeck into his power, he thought it right to ask Ferdinand's advice what to do with him. "I besought your highnesses a long while ago," writes De Puebla to Ferdinand and Isabella, "to write your opinion and advise

how the King of England ought to deal with Perkin. Your highnesses have to this day, no doubt from some just reasons and impediments, never sent a word in answer, nor written any other thing. Your silence causes me much pain, *because I am sure the King of England would do whatever your Highnesses might direct.*"

Another remarkable feature in these papers is the interest which the Spanish sovereigns took in Scotland. The distant situation of that country, and the proverbial barbarism of its people, made it an object of very little concern to European nations generally. To England it was but a plague, to France only a means of plaguing England. James had taken up the cause of Perkin Warbeck; but Henry initiated a new policy of conciliation, greatly against the prejudices of the people whom he governed. His chief agent in this was Don Pedro de Ayala, Ferdinand's ambassador to the court of James IV., and Ferdinand himself used every effort to cement the union between the northern and southern kingdom. Don Pedro made himself very well acquainted with both countries, and came to entertain great friendship for James IV. A long and very minute report which he made at the command of his sovereigns, concerning the King and Kingdom of Scotland, is one of the most remarkable papers in this volume. We cannot refrain from giving one extract, long as it is:—

"The king is twenty-five years and some months old. He is of noble stature, neither tall nor short, and as handsome in complexion and shape as a man can be. His address is very agreeable. He speaks the following foreign languages: Latin, very well; French, German, Flemish, Italian and Spanish; Spanish as well as the marquis, but he pronounces it more distinctly. He likes, very much, to receive Spanish letters. His own Scotch language is as different from English as Aragonese from Castilian. The king speaks, besides, the language of the savages who live in some parts of Scotland and on the islands. It is as different from Scotch as Biscayan is from Castilian. His knowledge of languages is wonderful. He is well read in the Bible and in some other devout books. He is a good historian. He has read many Latin and French histories, and profited by them, as he has a very good memory. He never cuts his hair or his beard. It becomes him very well.

He fears God, and observes all the precepts of the Church. He does not eat meat

on Wednesdays and Fridays. He would not ride on Sundays for any consideration, not even to mass. He says all his prayers. Before transacting any business, he hears two masses. After mass he has a cantata sung, during which he sometimes despatches very urgent business. He gives alms liberally, but is a severe judge, especially in the case of murderers. He has a great predilection for priests, and receives advice from them, especially from the Friars Observant, with whom he confesses. Rarely, even in joking, a word escapes him that is not the truth. He prides himself much upon it, and says it does not seem to him well for kings to swear their treaties as they do now. The oath of a king should be his royal word, as was the case in bygone ages. He is neither prodigal nor avaricious, but liberal when occasion requires. He is courageous, even more so than a king should be. I am a good witness of it. I have seen him often undertake most dangerous things in the last wars. I sometimes clung to his skirts, and succeeded in keeping him back. On such occasions he does not take the least care of himself. He is not a good captain, because he begins to fight before he has given his orders. He said to me that his subjects serve him with their persons and goods, in just and unjust quarrels, exactly as he likes, and that, therefore, he does not think it right to begin any warlike undertaking without being himself the first in danger. His deeds are as good as his words. For this reason, and because he is a very humane prince, he is much loved. He is active, and works hard. When he is not at war he hunts in the mountains. I tell your highnesses the truth when I say that God has worked a miracle in him, for I have never seen a man so temperate in eating and drinking out of Spain. Indeed such a thing seems to be superhuman in these countries. He lends a willing ear to his counsellors, and decides nothing without asking them; but in great matters he acts according to his own judgment, and, in my opinion, he generally makes a right decision. I recognize him perfectly in the conclusion of the last peace, which was made against the wishes of the majority in his kingdom.

"When he was a minor he was instigated by those who held the government to do some dishonorable things. They favored his love intrigues with their relatives, in order to keep him in their subjection. As soon as he came of age, and understood his duties, he gave up these intrigues. When I arrived, he was keeping a lady with great state in a castle. He visited her from time to time. Afterwards he sent her to the house of her father, who is a knight, and married

her. He did the same with another lady, by whom he had had a son. It may be about a year since he gave up, so at least it is believed, his love-making, as well from fear of God as from fear of scandal in this world, which is thought very much of here. I can say with truth that he esteems himself as much as though he were Lord of the world. He loves war so much that I fear, judging by the provocation he receives, the peace will not last long. War is profitable to him and to the country."

How many features of the Scottish character, precisely as we see it at the present day, have been noted by this shrewd observer of the fifteenth century! The extreme regard for personal character and good fame, the importance attached to the "precepts of the Church," observance of the Sunday and study of the Bible, the noble truthfulness descending even into trivial matter of fact, and the degrading prevalence of intemperance,—all go to prove that Scotchmen in the days of James IV. were wonderfully like Scotchmen in the days of Queen Victoria. A few points no doubt have been altered as civilization has advanced. The Wednesday and Friday fasts have long been abandoned as superstitious; even the fasts of the Scottish Church, though formally, are not painfully observed; and we would not for the world tell our Highland friends that Gaelic is the language of savages. But, radically, the national character is the same.

But the most extraordinary of the new facts brought to light by Mr. Bergenroth are undoubtedly those relating to Henry's numerous projects of marriage. It was already known that on the death of his queen, Elizabeth of York, he entertained from time to time various plans for a new alliance, and that on one occasion he sent three gentlemen to Spain with minute and by no means delicate instructions to report upon the personal qualities of the young Queen of Naples. He commissioned them to see her if possible fasting, to smell her breath, to give a particular account of her skin, her hair, her eyebrows, teeth and lips, nose, forehead, fingers, breasts, and a great deal more besides. It would be difficult to find in the history of match-making anything more extraordinary than this; yet even this is almost equalled in indecency by Henry's other pursuits in a similar direction. The very letter

which carried out to Spain the news of his first queen's death contained an indirect offer from the king to marry Katharine of Arragon, the widow of his own son Arthur. Queen Isabella's reply to this is dated 11th of April, 1503, exactly two months after the event which made the monstrous proposal possible. We should, perhaps, expect that it would be pretty strongly worded. It is certainly decided enough, but not in the least indignant. Though Isabella directed her ambassador to 'speak of it as a thing not to be endured,' and even to be sure he put the king completely out of hope to accomplish it, we have no reason to believe that her feelings were much outraged by the suggestion. Her reason for refusing, as she herself tells her ambassador, is that it would prevent the marriage of Katharine with the young Prince Henry; and she adds that if the King of England wished another wife, she could perhaps find one for him. She accordingly suggested the young Queen Dowager of Naples already referred to. After a time that project, too, was dropped, and Henry endeavored to gain the hand of Margaret of Savoy, daughter of the Emperor Maximilian. This lady had already been twice married. Her reply was rather curious. She had hitherto, she said, been unfortunate in husbands, and had no wish to try matrimony a third time. This project also, though spoken of more than once, never came to anything.

But perhaps the most repulsive proposition of the kind was that which Henry made, on the death of Philip of Castile, for the hand of his insane widow. He himself was at this time laboring under the most serious illness. His life had been despaired of; one might almost suspect his intellect had been impaired. He could only hope to effect such an object through the aid of Ferdinand, and Ferdinand's interest was obviously against it. Yet he not only made the offer, but made use of the poor unhappy Princess Katharine of Arragon to negotiate it. He would marry her whether she were sane or insane, and his council told the Spanish ambassador the English would not mind her insanity provided she were able to bear children!

We have by no means exhausted the points of interest in Mr. Bergenroth's volume. Henry's treatment of Katharine of Arragon is also a dark chapter in his history. But we believe we have said enough to indicate the very important nature of these researches, and to call due attention to their results. And so we take leave of Mr. Bergenroth for the present, hoping to meet him again when he has brought down his work to the days of Henry VIII. and Charles V.

From The Spectator.

THE UNDERGROUND RAILWAY.

THE idea of an underground railway through London is due to the late City Solicitor, Mr. Charles Pearson, who died but recently. When the scheme was first started, some ten or twelve years ago, it did not find many admirers, and the public was as incredulous about the possibility of burying a "line" beneath houses and shops as the capitalists were unwilling to risk their money in the enterprise. However, Mr. Pearson was indefatigable in explaining the eminent utility of his project, and by dint of hammering it into the heads of men, he, of course, carried his object at last. Gradually, timid moneyed citizens came forward to invest their surplus cash in underground shares; gradually, a company was formed, a legion of lawyers fed, and parliamentary sanction obtained for the new scheme; and, gradually, the army of navvies, with their spades and barrows, set to work digging into the London clay, converting the whole ground from Paddington to Clerkenwell into one huge molehill. The project of the City Solicitor was found to be of no easy execution, for the work of the navvies was not a mere boring through the ground, as in the ordinary tunnelling process, but a careful groping with spade and pickaxe through a maze of aqueducts, sewer-pipes, gas-tubes, and magnetic wires. More than once the water refused to give way to the light, and the light to electricity; but, ultimately, all were conquered by steam, and the iron links, which bind together nations, were safely laid down in the bowels of the metropolis. At the present moment, after more than five years' hard and uninterrupted labor, the Underground Railway is finished at last, and about to be opened to the still somewhat sceptic public.

Anything more curious and startling than a promenade along the iron highway which now lies below London, can scarcely be imagined. The road commences at the end of Farringdon Street, close to Old Smithfield market, and not far from the grim stronghold of Newgate. The entrance is formed by a temporary station, some five hundred feet long and ninety feet wide, built in the ordinary style of railway architecture, a cross between a goods-store and a greenhouse. Tall iron girders and long arches of white

perforated brick carry a low roof of tiles and ground plate glass, very useful for sheltering people against wind, but not very beautiful to look at. However, as the Underground Railway was certainly made to be used, and not to be looked at, there is not much to be said in the matter, and the visitor must check his reflections on this score. Stepping bravely down on the rails, the road of exploration lies for some distance among high brick walls, which gradually approach nearer to each other, until they end in a bell-mouthed arch. The yawning tunnel, black as Erebus, is by no means inviting for lonely foot-passengers; but it is Hobson's choice, for no other mode of locomotion is to be had for the present. Fortunately, after treading some distance into the dark region, a little blacksmith's boy offers himself and his naphtha lamp as guide, making it possible to proceed in the journey of inspection. What strikes the eye first in the long tunnel through which the way now lies, is the exquisite symmetry of the proportions of the arch above. The curve is perfectness itself, looking more as if moulded in one mass by the help of mathematical instruments, than as if put together piece by piece, in single bricks. The arch is of a most graceful elliptical form, sixteen feet and a half high from the level of the rails, and twenty-eight feet and a half wide. This great width is made necessary by the fact that the Underground Railway is to be worked by the Company of the Great Western line, the broad gauge carriages of which are to carry the whole passenger traffic. There is a narrow gauge between the broad lines; but the former is to be used only for the transport of goods, and for such occasional trains as the Great Northern Company may think fit to send to the city. The branch tunnel, leading up to the Great Northern station, is the first object which diverts the eye, being separated from the main tunnel by a brick wall, close to where the turbid waters of the Fleet Ditch are carried across the rails in a flat iron trough. The noise of the gushing stream is distinctly heard overhead, and, in the darkness all around, the imagination is at liberty to call up pictures of ancient London, at the time when the Fleet carried crowds of sailing vessels on its bosom, and shoals of jolly salmon in the fold of its waves. How the poor old Fleet must feel the change now, squeezed into an iron

spout, with the road above and the rail below—a true Procrustes bed.

At length we emerge from the tunnel, after about ten minutes' walk, and arrive at the first station of the Underground Railway, that of King's Cross. It is a structure a good deal more comely than the departure shed in Farringdon Street, consisting of two wide platforms on each side, covered by a huge dome of glass of nearly a hundred feet span. By laying a floor across the rails, on a level with the platform, the building might easily be converted into a fine ball-room, for merry Underground directors and shareholders to dance in. There is capital accommodation for a good orchestra, on a pretty aerial bridge, which hangs high under the glass roof, spanning the rail from side to side. Close to the bridge the tunnel yawns again. It is an exact counterpart of its brother on the other side; the same height and width throughout, the same beautiful elliptical arch above, and the same double line of broad and narrow gauge rails along the ground. There are the same "man-holes" too at the side of the tunnel: small niches cut in the solid wall, sufficient for sheltering two persons, and met with every twenty or thirty yards. The tunnel is large enough to allow free passage on either side, and between the trains; but these "man-hole" excavations are made, it seems, as extra security, or to serve as a refuge in case of accident. After another six or seven minutes' walk through the dark we emerge again in the light, in a building somewhat less lofty than King's Cross, and by no means so well lighted. It is Gower Street station, lying below the carriage way of the New Road, and having no other illumination than that obtained by a number of chimney-like openings, enamelled inside with white tiles, and covered at the top with thick ground glass. On a clear day sufficient light for all ordinary purposes is obtained in this manner; but in good orthodox London weather, the chimney illumination must be largely supplemented by gas. The latter is near enough at hand, the main pipe running right across the arch, in close grip of road and rail, like the poor Fleet ditch.

Another black tunnel of four or five hundred yards, and we arrive at Portland Street Station. This is a very pretentious edifice, in the pepper-box style of architecture: "to

harmonize with the church opposite," as the clerk of the works explains. Two biggish kind of sentinel-boxes, covered by domes modelled after the originals of Captain Fowke, R.E., start out of the ground, stuck to what appears to be a stable on the one side, and a pigeon-house on the other. Our friend, the clerk, says it is "Doric;" but it looks Kensingtonian all over. Luckily, there is not much light below to examine the niceties of the "style," and the tunnel opens its arms near to the platform on either side. The next station, Baker Street, is close at hand. It is a simple contrivance, without attempts at Doric, lighted by nineteenth-century chimney-pots, and covered like an honest railway-shed. The stairs leading into the outer world are well lined with brass, as a protection against hob-nailed boots, which proves that the architect was a man with no nonsense about him. Another tunnel, rather damp, and revealing to the nose the existence of sewers somewhere near, brings us to the penultimate station, that of Edgware-road. It lies in an open cutting, some five hundred feet long and more than one hundred feet wide, and is consequently well lighted and aired. There are extensive "sidings" for housing locomotives and carriages; the top is covered by an elliptical arched roof of iron and glass, as at King's Cross; and the whole appearance of the station is very cheerful and pleasing. But one more tunnel beckons invitingly beyond, promising to carry us to the end of the iron underground highway. It is not long, and one of the most interesting works of the whole line. The road gradually ascends until it arrives at an open space, where it divides into two branches, the one leading to the Paddington station and the other to the Great Western Railway Hotel. The entrance to the latter is by a huge bell mouth, covered with thick elliptical wrought-iron ribs, with cross girders between them, and stout iron plating over the whole. It is one of the grandest engineering pictures which it is possible to imagine; and lit up by a profusion of gas jets, the effect is truly magical. The tunnel, from this place to Paddington station, follows the direction of the South Wharf-road, till, creeping out below the coal wharf, it emerges at last and falls into the Great Western line. There is a separate station here in course of erection; but at present it

is difficult to determine the end of the underground road and the commencement of the "King of Railways."

At Paddington the passenger vehicles of the new line stand ready for their work. They are really handsome carriages, immensely superior to the mass of old railway coffins on wheels, into which travellers are stowed away. There are only two classes of carriages—both, as already mentioned, for the broad gauge. The first class is divided into compartments for ten persons, five on either side; each passenger having an arm-chair of most comfortable and luxurious dimensions. The benches of the second-class carriages, too, are bolstered, with cushions at the back; but there are no divisions of seats, and the compartment holds twelve passengers. Both classes of vehicles are so high that the tallest life-guardsmen need not stoop while standing upright, helmet on head; and so broad that even ladies in garments of the latest Paris fashion can move along without damaging their hoops. But what is most satisfactory is that all carriages are lighted to profusion with gas, there being two large burners in each compartment of the first as well as the second class. The gas is kept on the top of the carriages in

long boxes, lined with vulcanized india-rubber, and freighted with heavy weights, which press the æriform fluid to the burners. Into these boxes the gas is pumped by hydraulic pressure, each carriage holding sufficient to serve for three hours. The contrast of the splendid illumination thus obtained with the wretched semi-opaque condition of the old oil-lamp light is something marvellous, and will go far, probably, to make underground travelling popular in London. In Belgium railway carriages have been lighted by gas for some years, and in Ireland also the system has been tried, and found to answer admirably. There is no reason, therefore, why it should not be a success likewise in the bowels of the British metropolis, and throw a new light upon the subject of railway travelling. With locomotives consuming their own smoke, such as have been built for the new line; with soft-cushioned seats, and plenty of room to breathe and move; and with artificial light, far surpassing the metropolitan sunshine, the Underground Railway can scarcely fail to obtain a fair share of public patronage. If it accomplish no other good, it is likely to have the one great effect of either annihilating or improving those horrible sarcophagi of London called omnibuses.

Blackwood's Magazine has an article on America, in which it says:—

"So far, therefore, as it is a question of legality, England would be amply justified in recognizing the independence of the Confederate States."

On this *The Press*, 8 Nov., a strong Tory paper, and perhaps especially devoted to Mr. D'Israeli, thus speaks:—

"The only comment we feel disposed to make on the statement, is that precedents for recognition do not necessarily prove either the justice or the wisdom of recognition. What we ought to be more careful of than anything is establishing a precedent against ourselves. It may be said, of course, that this has been done long ago, and by the acts of intervention above quoted; so that as we cannot make our own case worse, we may just as well get all the good out of the precedents that we can. Perhaps so. But the point is a very nice one; and we rather distrust that appeal to the "voice of humanity" by which one people would justify dictation to another. The voice of humanity is a singularly elastic and ubiquitous voice, and may possibly be heard next in a quarter where it will not be very welcome."

An Irish local paper, the *Munster News*, gives an account of a curious silver cross that has been discovered in the ruins of Quin Abbey, County Clare, by a herdsman of the neighborhood, while making some casual researches amongst the old stones that had fallen from the walls. This is supposed to have been a pectoral cross of a mitred abbot of the Franciscan order, to whom the abbey, one of the oldest in Ireland, belonged. It is of silver, gilt, perfectly solid, elaborately wrought for its size, and bears a figure of the crucified Saviour; the prominent features were partially worn, presumably by constant attrition. It is said to be of the fourteenth-century workmanship. From the fact of the wearing away of the features, and also of the ribbon-ring, by which it would be suspended, this relic would appear to have been in use for a considerable period, and to have been a sort of official heirloom of successive abbots. The foot-ring, from which is suspended an ornamental silver drop or tassel, is, in like manner, worn to a mere thread. Above the head of the Redeemer's figure is a small, square, silver box, embracing a precious stone of sanguine hue, and affording room for a relic; in the foot of the article was another hole, probably intended to contain a second stone.

From The Spectator.

CHRISTOPHER NORTH.*

IN the course of this year, the British public has been asked to read the lives of two remarkable Scotchmen—two men of very unlike outer fortunes, to whom very different fields of labor were assigned, who, in certain respects, possessed very dissimilar qualities and intellect, and yet in whom we find sundry elements of a very kindred character—Edward Irving and John Wilson. To begin with, both were sons of Anak, handsome and good looking, and charged with a quite extraordinary amount of physical activity, endurance, and strength. Wilson could clear the Cherwell—twenty-three feet—with a running leap, and readers of Irving's "life" will remember how, after a hard day's march, the preacher vaulted with amazing ease a many-barred gate. Largely alike in their indomitable pedestrianism, there was in both a very characteristic nomadic or "Bohemian" tendency,—the erratic impulse becoming at times, in each case, wholly dominant, leading Irving to roam in the north of Ireland, and take the chance shelter for the night, of outhouse or cabin, during the weeks preceding his settlement in Glasgow: and ever and anon sending Christopher North into the solitary hills and valleys of Ireland, Wales, or his passionately loved Scotland. Again, when we hear of Irving saying to a friend that he would greatly relish an encounter with a certain grenadier soldier, who was standing near, or of his reckless gig-driving down a very steep incline, scattering in dismay a party of soldiers at the bottom of the descent, we recognize the presence of the same abounding animal vigor which on a certain occasion caused an Oxford pugilist to exclaim that the antagonist who had terribly punished him for stopping the way across a bridge, "must either be Jack Wilson or the devil," or which, to the alarm of his faithful Palinurus, "Billy Balmer," would indulge in a midnight boat excursion on Windemere, in weather so cold, the "icicles hung from Wilson's beard." Fear was equally foreign to the two; and in both, aboriginally, there was a superabounding

geniality, we might almost say joviality, which made them lords of the ascendant in all societies. We note in both the absence of the sense of time and the same supreme indifference to money. Both had "learned love in huts where poor men lie," and were completely elevated above the region of Flunkeyism. In both there was an exhaustless fund of generosity and benevolence, and the twain were alike unsystematic in their philanthropy. Two more passionately devoted husbands and fathers were not to be found in Scotland; and in these two men of giant mould there was the tenderness of a woman's heart, and a vast capacity of sorrow. Irving mourned all his days over the loss of his first-born. A mere boy of twelve, Wilson fainted at his father's grave, and when, after twenty-five years of wedded love, his wife was taken from his mortal sight, he fell half delirious on the floor of the room in which she had just ceased to breathe; nor during the eighteen years he survived her "did incurring ever entirely leave his heart." The two were orators of the highest order: and although Wilson, mainly, we suspect, through the malign influence of Lockhart, failed wholly to appreciate Irving,—the one instance, as far as we can remember, in which his marvellous discernment of contemporary genius was at fault,—and although the men were, apparently, personally unknown to each other, yet they were fellow-workers; and, so it seems to us, as prophet and poet, have conferred on their country everlasting benefits, and have nobly helped forward that day when Scottish song and Scottish theology will work in heartfelt concord. If any of our readers suspect that we are overestimating or misestimating Irving, let them remember what Carlyle says of the "uncelebrated, high-souled, blooming young man;" let them sunder the sublime prophesyings of his earlier London days from the confusions of a later period, and ask themselves what he might not still further have accomplished, with all his genius, his culture, his humanity, his faith, had he lived like Wilson in constant communion with Nature, and had he not, abandoning all literary and scientific interests, become the subject of a fixed idea.

It is a somewhat curious coincidence that the biographers of these two noble-hearted men are both ladies. Of Mrs. Oliphant's

* *Christopher North.* A Memoir of John Wilson, late Professor of Moral Philosophy in the University of Edinburgh. Compiled from family papers and other sources, by his daughter, Mrs. Gordon. Edinburgh: Edmonston and Douglas. 1862.

"Life of Edward Irving" we have already spoken in these columns, and in rather qualified language. But of Mrs. Gordon's two most charming volumes we can only speak in terms of cordial commendation. We do not know that we have ever read a biography which has, on the whole, satisfied us better. We cannot but believe that this Life of Christopher North will secure and permanently retain a very high place in our biographical literature. Mrs. Gordon has shown herself to have inherited much both from her father's heart and intellect. With singular diffidence she presents her *In memoriam* to the world. We hear that "abler hands" declined the task. We have failed to note wherein other hands could have added to the intrinsic merits of her portraiture. Contrasted with other volumes, which we need not name, when we open "The Memoirs of John Wilson," it is like passing from the glare of footlights into the naturalness of the pleasant sunshine. We have no sensation writing—no gaudy headings; but we have, instead, a book as healthful in tone and spirit, as it is faithful and impartial in its characterizations. Our main regret concerning this book is that Mrs. Gordon has thought it worth while, at this time of day, to print what Lockhart said of Irving, and to append a foot-note in which she accepts some words of Mrs. Oliphant too much *au pied de la lettre*. Mrs. Gordon's power of pen-and-ink portrait-painting is of a very high order; but her style is so quiet and unobtrusive that her likenesses rather steal their way into your imagination than force themselves on your criticism. Altogether perfect of their kind are her reminiscences of Hartley Coleridge, Lockhart, and De Quincey—all, too, very pathetic representations, and not the least so, that of Lockhart grown old, a worn, sad-hearted, hopeless being. Interspersed here and there are some capital stories, told so effectively that, like *Oliver Twist*, we are sorely tempted to "ask for more." Take the following specimen, which is furnished by Mrs. Gordon as an illustration of the continuance, amongst quite respectable church-going folks, of the mania for rearing fighting-cocks, at a period long subsequent to the days when the yet unfloored drawing-room at Ellery was converted into an arena for the feathered combatants: "One Sunday, in St. John's (Episcopal) Chapel, Edinburgh,

an old gentleman, a friend of my father, was sitting gravely in his seat, when a lady in the same pew moved up to him, wishing to speak with him. He kept edging cautiously away from her, till at last, as she came nearer, he hastily muttered out: 'Sit yont, miss, sit yont! Dinna ye ken, ma pouch is fu' o' gemm (i.e., game) eggs?'"

Wilson himself comes forth in Mrs. Gordon's pages in the integrity of his complex yet magnificent manhood. Her father's memory is too sacred to her to allow her either to cloak or exaggerate. And why should she have attempted to do either? John Wilson was certainly no ascetic, and rumor, somewhat noisily and busily,—especially at the time of his candidature for the Chair of Moral Philosophy in the Metropolitan University—carried through scandal-loving parties in Edinburgh, sundry rather queer stories affecting both his practical ethics and his creed. But as regards the latter the stories were pure fiction. If we may be allowed the expression, John Wilson was born a great believer; and while, as we read in the memoirs before us, he could, in his Oxford days, handle the Gibbon and Voltaire weapons with formidable mastery, it was only as a debating exercitation that he did so. There was nothing negative about the man, and strange as it may seem to those who have thought of Wilson only or mainly as the great lord of the *Roundabouts*, or chieftain of the *Harum-Scarum* class of literature—and in the circumbendibus region he is monarch confessed, his full-flooded sentences, overflowing at times both "bank and brae," his passionate love of nature, his inevitable accuracy, and his panoramic sweep of description, his wondrous combination of man and boy, his glorious *abandon*, rendering him *facile princeps*,—there is not, we believe, one of his "children," as he loved to call his students, who would not cordially testify that there was no contemporary teacher in the university whose whole bearing and language bore so profoundly the impress of reverence for God and all that is Godlike, as did those of the Professor of Moral Philosophy. How far he accepted or rejected the special dogmas of Scottish theology we do not know. He seems to have rather ignored than questioned them; or whenever they came in his way, though repugnant to his own heart and conscience, the remembrance

that they were, if even superstitiously, held in great veneration by the peasantry of his own day, and that the Covenanters had carried them, along with their blue banner, to the moors and mountains, would invest them in his imagination with a sacredness that, for the time, prompted him rather to worship than gainsay. This, however, is known of many, and may be read of all, that, whenever he is not rioting in mere excess of energy, a deep religiousness pervades all Wilson's writings; and it is only in beautiful accordance with all that we ourselves had previously believed, when we read, in his daughter's touching words, that "it was no unfrequent sight to see my father, as early dawn streaked the sky, sitting by the bedside of the dying woman"—an old servant of Mrs. Wilson, whom the professor, after his wife's death, had invited to his house at Roslin, as she had fallen into bad health—"arranging with gentle hand the pillow beneath her head, or cheering her with encouraging words, and reading when she desired it those portions of the Bible most suitable to her need." (Vol. ii. p. 246.)

In the matter of Wilson's practical ethics, gossip had just enough of *locomotive* power supplied by some authentic bits of his early history to get its wagon-loads of invention dragged through the "public square;" and, certainly, there are some ultra-"muscular" passages in his biography which we could wish non-existent, and about which Mrs. Gordon, of course, shares the sentiment of all cultivated readers in this latter half of the nineteenth century. But if he did "let dogs delight to bark and bite," and was only too prone to encourage game-cocks also in the manifestation of "their nature," side by side with these pugnacious sympathies, was a burning indignation against anything like cruelty to animals. On one occasion, for example, finding that expostulation with a carter, who was unmercifully treating an overburdened horse, was unavailing, and rather exasperated him, "in an instant that well-nerved hand twisted the whip which was held up in a threatening way from the fist of the man, as if it had been a straw, and walking quietly up to the cart he unfastened its *trams*, and hurled the whole weight of coals into the street. The rapidity with which this was done left the driver of the cart speechless. Meanwhile, poor Rosinante,

freed from his burden, crept slowly away, and the professor still clutching the whip in one hand, and leading the horse in the other, proceeded through Moray place (a noted section of the Edinburgh Belgravia), to deposit the wretched animal in better keeping than that of its driver." How animals of all kinds were known and loved by their impulsive friend, and how largely he shared their warmest attachment, we are informed by Mrs. Gordon in sundry places, some of which—particularly in the case of the dog "Rover,"—have a quite pathetic interest, and could scarcely effect us more had the narrative been written by the genial author of "Rab and his Friends" himself.

In addition to his canine and gallic proclivities, charges more directly implicating Wilson's moral character were so bitterly and pertinaciously reiterated by the Whigs—for in 1820 the election to the chair of Moral Philosophy was simply a question of politics in the Town Council—that it was absolutely necessary for him to submit to the humiliation of having certificates from Walter Scott; Mrs. Grant of Laggan, and others, to the effect that he was a good husband, a good father, and a wholly honorable and hard-working man! Christopher in his "ambrosial" moods, Christopher "on Colonsay," in "his sporting-jacket," in the water, and sometimes almost under the water, with rod in hand; Christopher as eloquent naturalist, as glowing expositor, as the maker of some poems which will always keep a high place among those of the lesser lords of song, was widely known to the world; but as a teacher of philosophy John Wilson was scarcely heard of beyond the walls of his class-room, and comparatively few were acquainted with his manner of life at home.

We fear no words will ever be sufficient to convey to those who never listened to his prelections anything like an adequate conception of what Wilson was in his class-room. Mrs. Gordon had had, on the whole, valuable contributions of reminiscences from old students, and the syllabus of his lectures for 1833-4, drawn up by the professor himself, will, perhaps, surprise some who had suspected that, as a lecturer, Wilson was more of a declaimer than a thinker. True, the field of ethics seems to be surveyed solely from the British point of view, but a very wide range is embraced, while there are in-

dications of a subtlety and method which belong only to the true analyst and orderly thinker. But if the reader, who never saw the professor, can gather from the syllabus in question that the moral philosophy class, while presided over by Wilson, was a genuine metaphysical gymnasium, and if the recollections of these grateful students, aided by the exquisite calotype in the first volume, will serve to supply to the imagination of strangers a tolerably lifelike representation of the lecturer himself; yet the splendid reality cannot be reproduced. With his slight Geneva gown hanging loosely from his broad shoulders, he strode with short elastic step from his vestry to the lecture-platform, and as he turned round his wonderful countenance on his class, he seemed to fill the room with sunshine. From behind the massive desk-table, on which he hurriedly deposited his roll of tattered manuscript, and then his watch, so as to be out of reach of his large, but finely articulated hand, he seemed at once a son of Thor and of Balder, the white sun-god. The long flowing fair hair, the bright blue eye, now glowing with light, or flashing lightning, or dashed with fiery dew; the broad and lofty forehead, swelling out in the region of "ideality," and so intensely developed in the "observing faculties" as to impart a semi-receding aspect to those of "reflection" (to use the terms of phrenology); * the nose, not Greek, or Roman, or *retroussé*, but a well-defined compromise between the three styles, the mouth, with the finely formed upper lip, exceedingly beautiful, at once sensitive and sensuous; the chin, like that of Rome's noblest faces, indicating both strength and decision, the ample throat and chest, and the mighty arm, the deep-toned voice, now hushed to a whisper, now musically tremulous, and now thundering in the full diapason of passion, the speaker, the while, either lion-like, roaming to and fro, or intently spelling out a bit of manuscript on the back of an old letter, or beating time with the right hand on the desk before him, or lifting himself up to the full height of his majestic presence, and, with outstretched arm, looking out at that western window, from which the light fell on him, as if waiting for and

supplicating, fresh inspiration from Heaven;—such is an outline of Professor Wilson to the eye and ear in the winter of 1835.

Of the lectures themselves there are, alas! but scant records. Wilson, however, seemed to suggest far more than any specific teaching to his pupils; and one of them has been heard to say that, grand as were Wilson's lectures on the Immortality of the Soul, it was the hearing and seeing the professor himself that, next to the Bible, inspired him with the hope of a glorious immortality for all mankind. Mrs. Gordon alludes to a lecture on Socrates—that lecture was one of his greatest; and all who ever heard it must remember that fine passage which ended with the words: "Socrates wrote no books, but, with reverence be it spoken, like a still greater Name, left it to his disciples to convey to posterity the knowledge of his teaching. Socrates preached no paltry system, he founded no narrow sect; it was his one great aim to bring back men from the fictions of system to the realities of indwelling truth; to pull down the towers and temples of a vain philosophy, and lay God's green earth open to the sky."

Our limits forbid further talk of the professor in his class; and for knowledge of him at his own fireside we must leave our readers in the hands of his accomplished daughter.

From his birth in Paisley in 1785 until, after two warnings in 1840 and 1850, the silver cord was at last loosed in 1854, the story of Wilson's life is faithfully recorded. At eighteen, after a most radiant childhood and happy boyhood, until his father's death, in his twelfth year, and after a successful student life in Glasgow, we find Wilson at Oxford—a buoyant youth rejoicing in his strength, master of himself, and having a very handsome fortune at his disposal. But, as explanatory, we suspect, of many of his nomadic experiences, Wilson had left his heart in Glasgow with an "orphan maid" there. In compliance, however, with the stern will of his mother, he "bade adieu forever" to the object of his passionate love. The sacrifice was a great shock to heart and brain; and, instead of wondering at much that he did to escape from himself, we rather marvel at the amount of solid work he got through, and that in the end his "examination" was pronounced to be even "glori-

* By far the most striking and lifelike rendering of Wilson's head and face we have met with, we saw in a window the other day at Brighton; the sculptor, a Mr. Boyby.

ous." In the main Wilson's life was based on sacrifice, at least to what he conceived it to be, duty—child of impulse though he was. And again, when, through the malversation of a near relative, he lost all his fortune, we find a noble power of submission in him; for, he not only gave himself to diligent labor on behalf of his family, now growing up, and largely dependent on his industry, but strove to succor the "unjust steward" as well—the means of the latter having gone down in the wreck.

Until "his hand ceased from work," amid the thick coming shadows, in 1852, Wilson was a really hard worker; and labored for *Blackwood* right loyally, but, as it turns out, he was very indifferently remunerated. He never, in fact, was the editor of *Blackwood*, and was paid only for what he wrote. And how he did write, doing at times, and amidst ill health, too, fifty-six pages of print in a couple of days, and sometimes fifty-four long articles in the course of a single year! Could he have set down quietly and persistently to a task, like Carlyle; could he have spread over months what he condensed into the strain of a few days! But then men are what they are. Wilson's genius was tidal, and did not flow like a river. He could not work by parallels and slow approaches. He flung himself at his subject when the mood came like a battering-ram. We must believe, however, after all, that the higher class of men do, on the whole, what they were intended to do; and in Wilson's case, or in any case, it is not for us to judge, but to receive with thankfulness any treasures he brought to the heritage of the ages.

In poetry technically so called, it was not as a creator, but as a critic, that he was great. Indeed, we find in a letter to his friend "Delta"—Dr. Moir—that he had very accurately, and with his characteristic humility, taken the measure of his own creative power. "You have not," he writes, "written any one great work, and, perhaps, like myself, you never will. But you have written very many exquisitely beautiful poems which, as time rolls on, will be finding their way into the mindful hearts of thousands, and become embodied with the *corpus* of true English poetry. The character and the fame of many of our finest writers are of this kind. For myself I should desire no other;—in some manner I hope they are mine." In a

very unmistakable manner, we would say; but yet, it was in his prose that he came forth most truly as a poet. It was with Homer, or Spencer, or Milton, or Burns, lying beside him in that wonderful library, so well described by Mrs. Gordon, with the foundling "sparrow nestling in his waistcoat," and probably in later years, a baby-grandchild at play on the hearth-rug, and when, for "Maga," he was about to unfold the diviner meanings of one of the poetic brotherhood that the fountains of his inspiration were broken up. It was then, when not at all seeking his own glory, or aiming to utter merely his own thoughts, but endeavoring to kindle in the soul of his readers a kindred enthusiasm with his own for the thoughts of other men, that his true power was seen. All things then became his—all images of peace, all symbols of power, came crowding to his imagination, and, as Hallam justly and beautifully says, "His eloquence poured along as the rush of many waters." But it was not only when communing with the grander spirits known to the world that the might of his sympathy revealed itself in breathing thoughts and burning words. He was ever waiting to hail the advent of any new manifestation of genius; and who was so cordial in early recognition and in the expression of admiration as he? Overdemonstrative some thought him; but he was always in the right, and not a few were largely encouraged by the liberal and loving words of the "old man eloquent." In fact, to us it seems that Wilson's special contribution to British literature lay here. Macaulay gave us the historical essay; Carlyle imported something of the earnest prophetic fire of his own heart into our periodicals. Wilson, fiercely as he wrote in early *Blackwoods*, though never with the *animus* of Lockhart, inaugurated the criticism of exposition, and genial admiration. With what heartiness did he welcome Mrs. Hemans, Alford, Miss Barrett, the Corn-law Rhymer, and John Sterling! Sterling was one of his latest admirations. We believe he never met him; but, though only through the medium of manuscript, he had thoroughly discerned what a bright and fine mind he had, and to the present writer he spoke of him in language almost exceeding the glowing eulogy with which he greeted him as "our new contributor," in *Blackwood*.

In the main, Wilson's genius was observing and sympathetic rather than scientific, and his critique on genuine poetry was quite in harmony with his unrivalled word-paintings of nature and natural objects. The authentic poem awed, or delighted him as did the song of the lark, or the mist rising from Windermere, while the lake became a mirror of dazzling sheen, or as did that experience of upland storm when "Young Kit" was imprisoned in the dense vapor, and he watched the young "peeseweeps" coming out of their hiding-place, while the mother of them and he kept "glowerin" at each other, until the bird, suspecting the storm-stead child might be "Lord Eglinton's gamekeeper," gave a loud shriek, and fled away with her downy bantlings. And hence it is that his criticisms are never pedantic. They are themselves poetry, and, while logically defensible, rather implicitly than explicitly give you a reason for the faith that dwelt in the rapt expositor. At the same time he could both analyze and rationalize with great subtlety and conclusiveness; and, as an illustration in part of what we mean, we would refer to his letter to Wordsworth on the "Lyrical Ballads," written while he was still in his seventeenth year—one of the most striking efforts of juvenile criticism we have met with for many a day.

Mrs. Gordon has given us some very exquisite passages from her father's writings. We would gladly quote them all, but we must content ourselves with the following extract from a letter to the professor's early and unchanging friend, Dr. Alexander Blair. What Deodati was to Milton, what Arthur Hallam was to Tennyson, Alexander Blair was to Wilson, while in Wilson's case the companion of his sunny boyhood lived on to be the revered and loved counsellor of his latest days. "I have often seen them," Mrs. Gordon writes, "sitting together in the quiet retirement of the study, perfectly absorbed in each other's presence, like schoolboys in the abandonment of their love for each other, occupying one seat between them, my father with his arm lovingly embracing 'the dear doctor's' shoulders, playfully pulling the somewhat silvered locks to draw his attention to something in the volume, spread out on their knees, from which they were reading." The following is the passage we refer to:—

"I once saw in a dream a most beautiful flower, in a wide bed of flowers, all of which were beautiful. But this one flower was especially before my soul for awhile, as I advanced to the place where they all were growing. Its character became more and more transcendent as I approached, and one large flower of which it consisted was lifted up above the rest. I then saw that it was a light, a prismatic globe, quite steady, and burning with a purity and sweetness, and almost an affectionate spirit of beauty, as if it were alive. I never thought of touching it, although I still thought it was a flower that was growing; and I heard a kind of sound, faint and dim, as the echo of musical glasses, seeming to proceed from the flower of light, and pervade the whole bank with low spiritual music. On trying to remember its appearance and spiritual beauty more distinctly, I am unable even to reconceive to myself what it was; whether altogether different from the other flowers, or some perfectly glorious representation of them all; not the queen of flowers, but the star of flowers, or flower-star. Now, as I did not, I presume, see this shining, silent, prismatic, vegetable creature, I myself created it; and it was 'the same, but ah! how different of the imagination,' mingling light with leaf, stones with roses, decaying with undecaying, heaven with earth, and eternity with time. Yet the product was nothing startling, or like a phenomenon that urged to inquiry—what is this? but beheld in perfect acquiescence in its existence as a thing intensely and delightfully beautiful, in whose perception and emotion, of whose heavenly and earthly beauty my beholding spirit was satisfied, oh! far more than satisfied, so purer was it than dew or light of this earth; yet as certainly and permanently existing as myself existed, or the common flowers, themselves most fair, that lay in usual spring assemblage in a garden where human hands worked and mortal beings walked beneath the umbrage of perishable trees. Perhaps we see and feel thus in heaven, and even the Alexander Blair, whom I loved well on earth, may be thus proportionately loved by me in another life." Of that we have no doubt; and, amid the music of this exquisite "dream-fugue," we take farewell of one of whom Scotland will long be justly proud. *Vale!* noble-hearted John Wilson!

From The Spectator.

HIAWATHA IN LATIN.*

THIS is not an age or country in which we can reasonably complain of the paucity of our sensations. Whether we seek new impressions or not, they overtake us almost beyond the limits of philosophic digestion. Nevertheless it may be said, as, indeed, we find, that the number and the novelty of the sensations required to overcome the listlessness of life will vary in different individuals. Where most men are spell-bound by the extraordinary rapidity of the events which surround them, a few minds may be so ardent, so versatile, and ethereal, as to be unsatisfied with a progression of daily discoveries in every branch of knowledge almost too numerous to record, and a frequency of political and social revolution, so far as we yet know, historically unparalleled. Nor can we quarrel with the preternatural mental activity of such highly gifted persons, beyond the involuntary astonishment which we may feel at their quaint feats of intellectual funambulism. In this respect the body throws much light upon the mind. Professor Blondin might, for aught we know, lead a blighted existence, but for the outlet he has found for his exuberant daring on the highest rope yet known. Boys will fly madly up half a dozen flights of stairs, for the pleasure of sliding down the banisters with a breathless rush, and a good thud at the end, where your ordinary man will grumble inwardly at the few steps he may have to ascend in order to consult a friend on important business. Yet, on the whole, we sympathize with the boys, and with those scholars who refresh their fevered wits with the like intellectual pranks. We should all be the better for a little more gymnastics. The Greeks of old must have drawn something of their unapproachable plasticity of mind from the elasticity of their bodies; and those glorious exercises which made their physical beauty the typical model for all future generations of sculptors, must have contributed something to the noble symmetry and miraculous versatility of their wits. The converse may not be true. A plastic mind may not argue a plastic body. Whether Professor

Newman, for instance, the versatility of whose mental parts is truly astonishing, can also dance upon a rope, we cannot say. But surely, when apparently no longer satisfied with the common impossibility of translating Homer into English, he suddenly resolved upon the translation of *Hiawatha*, of all books in the world, into Latin, we may be permitted to say, with all due admiration for his genius, that we can only compare him with those interesting and philosophic young experimentalists who, tired of things as they see them under ordinary circumstances, proceed to refresh and heighten their sensations by looking at the world, with head inverted, through their legs.

Even in itself, *Hiawatha* was, perhaps, the most acrobatic experiment of modern literature. Mr. Longfellow, when he wrote *Hiawatha*, had fluttered over the realms of almost the whole of modern poetry, touching here, settling there, here culling, and there sipping, and dropping milk and honey in his random unlabored flight from place to place. But poets (do angels?) tire of common milk and honey; and in the golden decline of his meridian, Mr. Longfellow craved a new craving, and loved a last love—the passionate erratic love of a poetic second childhood. Very childlike is *Hiawatha*. The poet had plucked the leaves of the old rose tree one by one, and peered into the old Teutonic heart till Teutonia seemed to pall, when he was smitten with a desire to peep into the innocent secrets of a virgin breast, and chose the brown inarticulate bosom of the Indian muse. He peeped, and fell,—at her feet. We say nothing of the qualities of the lover on this his new love errand,—devotion, knight-errantry, genius, enthusiasm, the many-colored prattle of passionate last loves,—all were there. But surely no lovesick knight, of much amatory experience, in quest of new delights, ever dedicated such an epistle to the fairy of his dreams, or besieged her ravished and astonished ear, with such a sweet simplicity of strange surprising compliments, protestations, raptures, and visions of visionary charms. The “mirage of imaginative thought,” the prismatic quaintnesses, queer conceits and infantine ingenuities, with which Mr. Longfellow invested the guttural, great masculinity of the old Red Indian is surely the eighth wonder of modern poetry. Cinderella in diamonds,

* *Hiawatha* rendered into Latin. By Francis William Newman, Professor of Latin in University College, London. Walton and Maberly, Upper Gower Street.

or a wild Highland lassie decked in purples and ermine, and suddenly presented at court, are nothing to the plight of the Indian muse, when she awoke to self-consciousness in the arms of Mr. Longfellow.

But if Mr. Longfellow wrought a miracle of poetry, Mr. Newman has out-Longfellowed Longfellow. The lovely chameleon babble of Hiawatha in the loud plain tongue of conquering Rome is not more wonderful than would be our nursery rhymes on the lips of Milton's Satan, or, if you please, Spenserian English turned into commercial Chinese. To have attempted to spin the iron bars of imperial Latin into a limp covering for Longfellow's most impalpable of impalpabilities, is almost as towering an attempt at intellectual Herculeanism as the bodily efforts of the Titans to scale Ether with the heaping up of mountains.

Compare for instance,—

"I should answer, I should tell you;
From the forests and the prairies,
From the land of the Ojibways,
From the land of the Dacotahs,"

with the Latin version,—

"Ego respondeo et tibi confirmo;
Ex silvis atque immensitatibus herbosis,
E vastis Septentrionis lacubus,
E finibus Oggibbawaiarum,
E sedibus Dacotarum."

Do not the English lines, in their tone and rhythm, apart from the mere ideas, somehow or other involuntarily call up the sweet, unconscious babble of a rosy, curly-pated Saxon child, shrieking and paddling in its bath, with the bees buzzing in at the open window, and the swallows screaming in the morning sun? But all that the Latin suggests is a grim parody upon "Cæsar's Commentaries," or a stern lesson in military geography to his subalterns from some gruff old captain of Praetorians, with the added indefinable twang of a Franciscan monk mouthing out "Immensitatibus." There is a military tramp, too, about the lines, like the feet of many legions. Not that Mr. Newman meant it—but when he touched the gong, it roared, instead of prattling. The infantine element is absolutely lost—an element which Mr. Longfellow piqued himself upon having fetched from the deepest depths of the Indian bosom, but which we shrewdly suspect he drew from Anglo-Saxon Christianity.

Again compare,—

"Ille ridens: 'Ideirco (inquit)
Dacotarum virginem prae ceteris
Egu mihi in connubium peto;
Ut, coalescentibus populis
Coalescant utrorumque vulnera.'"

with—

"For that reason, if no other,
Would I wed the fair Dacotah;
That our tribes might be united,
That old feuds might be forgotten,
And old wounds be healed forever!"

Here, again, the Latin stands in much the same proportion to the original as Othello's speeches to Puck's.

"And the smoke rose slowly, slowly,
Through the tranquil air of morning;
First a single line of darkness,
Then a denser bluer vapor,"

is rendered by—

"Per matutinam aëris quietem
Lente lentus surrexit fumus,
Unum primo nigredinis filum,
Tum densior caeruleus vapor,"

where the Latin hobbles after the ethereal English much like a donkey with a cannon ball at its leg ogling a lovely unapproachable thistle. Nor can it be said that Mr. Newman labored under even the usual difficulties of prosody or vocabulary. For he has discarded all regular metre, and only consulted his own ear—while he has added many new words to the Latin language of his own creation, expressly coined for the present translation, such as "atror," for blackness; "procor," to woo; "jejunare," to fast. But although, upon the whole, we think Mr. Newman's attempt unsuccessful, we are far from wishing to convey that what he has attempted might have been better done. What we think, and for reasons which we lately detailed, is, that the translation was a Quixotic attempt to begin with, which Mr. Newman was perfectly warranted in attempting, if he pleased, but which, *ab initio* could not possibly succeed.

In conclusion, we bid Mr. Newman farewell. We admire his talents, though we rather regret that he should not apply his very great powers to larger purposes. After such a feat of strength on his part, we can only lament that there seems so little left in the world likely to afford him a new sensation. Yet, perchance, there is one thing left. One hope remains. Let Mr. Newman only make up his mind to repair to the American forests, and, having learnt Indian, translate *Hiawatha* back into the own native tongue of the Indians. Then, perhaps, he may consent to rest in peace upon the soft cushion of dearly earned repose.

A DEATHLESS LOVE.

Oh, sing that plaintive sang, dear May!

Ance mair, ere life I tyne;
There's no in a' the world, dear bairn,
A voice sae sweet as thine.
Alang life's brig I've tottered lang;
The broken arch is near;
And when I fa', I fain wad hae
Thy warbling in my ear.

Oh, sing again that plaintive sang!
It waukens memories sweet,
That slumbered in the past afar,
Where youth an' bairn-time meet.
I roam through woods wi' berries rich,
Or owre the breezy hills
Unwearied wander far, to dream
Beside love-hallowed rills.

Sit owre beside me, winsome bairn,
And let me kiss thy broo;
Wi' baith thy warm wee hauns press mine—
Oh, would the end come noo!
Or would—but 'tis a sinfu' wish,
'As sinfu' as it's vain;
We could not sit forever thus,
Nor thou a child remain.

There's nane I love like thee, dear bairn—
Thou ken'st nae why, I ween?
Thou only hast thy grannie's smile,
Thou only her blue een;
Thou only wilt the village maids
Like her in sang excel;
Thou only hast fler brow and cheek,
Wi' rosy dimple dell.

It's mony weary years since she
Was 'neath the gowans laid,
Yet aft I hear her on the brae,
And see her waving plaid;
And often yet, in lanely hours,
Returns the thrill o' pride
I felt, when first we mutual love
Confessed on Lavern side.

They say there's music in the storm
That tower and tree owreturns,
And beauty in the smooing drift
That hides the glens and burns;
And mercy in the fate that from
The waeifu' husband tears
The angel o' a happy hame,
The love o' early years:

But he whase house the storm has wrecked,
Nae music hears it breathe;
Wha e'er saw beauty in the drift
That happ'd a freen' wi' death?
Oh, wha, when fate wi' ruthless haun'
His life's ae flower lays low,
Can breathe a grateful prayer, and feel
There's mercy in the blow?

Sae thought I when her een I closed,
And, though the thought was wrang,
It haunted me when to the fields
My meals no more she brang;
And often by the lone dykeside
A tearfu' grace was sain; *

* Sain—said.

And aft, alas! wi' bitter heart
The Books at e'en I ta'en.

Nane think how sadly owre my head
The lang, lang years hae passed;
Nane ken how near its end has crept
The longest and the last.
But I fu' brawly ken; for, May,
Your grannie cam' yestreen,
And joy and hope were in her smile,
And welcome in her een.

Sit near me, May; sit nearer yet!
My heart at times stauns still:
'Tis sweet to fa' asleep for aye
By sic a blithesome rill.
My thoughts are wanderin', bairn. The veil
O' heaven aside seems drawn,
The deepenin' autumn gloamin's turned
To summer's brightest dawn.

My een grow heavy, May, and dim.
What unco sounds I hear!
It seems a sweeter voice than thine
That's croonin' in my ear,
Lean owre me wi' thy grannie's face,
And waeifu' glistenin' ee;
Lean kindly owre me, bairn, for nane
Mann close my een but thee.

DAVID WINGATE.

—Blackwood's Magazine.

REDIVIVA.

AH, is it in her eyes,
Or is it in her hair,
Or on her tender lips,
Or is it everywhere?

'Tis but one little child
Among the many round;
Yet she holds me in a spell,
And I am on holy ground.

As I look into her eyes,
The long years backward glide,
And I am alone with Darling,
Two children side by side.

Her sash blows over my knee,
Her ringlets dance on my cheek:
And do I see her smile?
And shall I hear her speak?

O Love, so royally trustful,
That your faith and fulfilment were one!
O World, that doest so much!
O God, that beholdest it done!

She looks me clear in the face,
She says, 'Please tell us the time,'—
And I, 'Tis twenty years since—
Oh, no, 'tis a quarter to nine.'

And the children go for their hats,
And homewards blithely run;
But I am left with the memory
In which Past and Future are one.

Ah, and was it in her eyes,
Or was it in her hair,
Or on her tender lips,
Or was it everywhere?

—Fraser's Magazine.

R.